A THEORY-DRIVEN EVALUATION OF AN EARLY CHILDHOOD SCHOOL READINESS PROGRAMME IN AN UNDER-SERVED AREA IN THE WESTERN CAPE PROVINCE

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by

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COMPULSORY DECLARATION:

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to and quotation in this dissertation from the work or works of other people has been attributed, cited and referenced.

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List of Abbreviations

AIDS – Acquired Immune Deficiency Syndrome

ECD – Early Childhood Development

BUSSE-SR – Behaviours Underpinning Skills for Social-Emotional School Readiness Scale

CPRS – Child-Parent Relationship Scale

DHIS – District Health Information System

ECDC – Early Childhood Development Criteria

ECERS-R – Early Childhood Environment Rating Scale Revised edition

EIU – Economist Intelligence Unit

EPPE– Effective Provision of Pre-school Education

ETDP SETA – Education, Training and Development Practices Sector Education and Training Authority

FCW – Foundation for Community Work

FiF – Family in Focus Programme

HIV – Human Immunodeficiency Virus

HRI – Helping Relationship Inventory

IMCI – Integrated Management of Childhood Illness

INN – Integrated National Nutrition

IQ – Intelligence quotient

MoU – Memorandum of Understanding

NAEYC – National Association for the Education of Young Children

NFCS – National Food Consumption Survey

NPA – National Programme of Action for Children

NQF –National Qualification Framework

OECD – Organisation for Economic Co-operation and Development

PAN – Policy Action Network

PAT – Parents as Teachers

PMTC – Prevention of Mother to Child Transmission

POE – Portfolio of Evidence

PPA – Provincial Programme of Action for Children

PPIP – Problem Identification Programme

PPVT-4– Peabody Picture Vocabulary Test, Fourth Edition

PSOC –Parenting Sense of Competence Scale

SAIDE– South African Institute for Distance Education

SAQA – South African Qualifications Authority

SES – Socio-Economic Status

SPSS – Statistical Package for the Social Sciences

UNESCO – United Nations Educational, Scientific and Cultural Organisational

UK – United Kingdom

UNICEF – United Nations International Children's Emergency Fund

USA – United States of America

WEMWBS – Warwick-Edinburgh Well-being Scale

Abstract

Early childhood development, care and education interventions coordinate resources and services that are aimed at stimulating growth for young children. Resource constraints in low and middle-income countries contribute towards a lag in childhood development initiatives compared to high-income countries. This thesis focused on the context of South Africa where the government has a long-term objective of ensuring that all children have access to quality services. However, the attainment of this goal is currently not a financially viable option, and many community-based organisations resort to alternative provisions of early childhood interventions to ensure that poor children are served.

This thesis investigated implementation and associated outcomes for the Family in Focus (FiF) programme. This home-based early education programme that is targeted at young children between the ages of 0-6 years, who live in poor and marginalised communities where access and resources for care and stimulation are limited, was the programme of interest. A small sample theory-driven evaluation approach was applied to this programme to assess its viability to alleviate service access issues and produce meaningful outcomes for marginalised children. Evaluation questions were posed and a descriptive research design and a pre-post non-equivalent group quasi-experimental design that compared the results of the FiF programme to a traditional pre-school were utilised. Qualitative descriptions, descriptive statistics (mean and standard deviation) and inferential statistics (t-tests) were used to analyse the results.

The FiF programme theory, although not initially clearly defined, was found to be plausible with moderate change expected for the beneficiaries of the programme. The programme, however, had a very low implementation fidelity level of 37.5%, meaning that the programme was not being implemented according to design. This was further associated with poor outcomes for the small sample of children in the FiF programme group utilised. Across the five developmental outcomes of cognitive, language, motor, social and emotional development, outcomes were particularly

poor for the first three development domains against South African norms and the comparison group used in the evaluation.

Early childhood education home-visiting programmes have the ultimate goal of improving child development outcomes. However, evidence shows that these programmes seem to be more successful in improving parenting skills and caregiver coping, without reaching the former ultimate goal. The comprehensive approach to assessing child development in underserved areas in this evaluation provided a novel overview of the interaction of multiple factors in school readiness in impoverished communities. There is still a lingering question as to the benefits of home visiting programmes that are increasingly being implemented across the country as an alternative provision of early childhood care and education services.

Keywords: early childhood care and education, community-based interventions, child development outcomes

CHAPTER 1

Research has shown that the early years of a person's life play a role in predicting health, longevity, social adjustment, stress, education and earnings (Richter, Biersteker, Burns, Desmond, Feza, Harrison, Martin, Salojee, & Slemming, 2012). These outcomes are determined by the state of parenting, the level of nutrition and the amount of early stimulation that is experienced in childhood years (Stack, Serbin, Enns, Ruttle, & Barrieu, 2010; Victoria, Adair, Fall, Hallal, Martorell, Richter, & Sachdev, 2008). Early Childhood Development, Care and Education (ECDCE) interventions coordinate resources and services that are aimed at stimulating growth for young children. These services promote and support development in various areas such as health care, nurturing and safe environments, and preparation for formal schooling (Richter et al., 2012). These critical areas can result in poor development and functioning if absent.

Children are particularly sensitive to their environment in the first 1000 days of their lives, which is the period from conception through to the first two years (Richter et al., 2012). During this period of growth there is rapid development of the brain structure, metabolic functions, interpersonal engagement and self-regulation (Shonkoff, Richter, van der Gaag, & Bhutta, 2012). Where a child's development is at risk owing to natural adversity, social or economic disadvantage, this period is believed to be the best opportunity to provide support to lessen the negative effects that could result (Hertzman & Boyce, 2010; Richter et al., 2012). It is argued that the early years of a child's life provide an opportunity to equalise any disadvantage that may have been carried over from previous generations (Richter et al., 2012). Access to early development services provides solid developmental foundations for these children, creating a better chance of exiting the cycle of disadvantage. When this opportunity is missed, it becomes difficult to compensate naturally in the later years when it becomes an expensive endeavour (Gordon, 2004). The age range that is targeted in implementing early childhood development initiatives differs across nations and policies, with most high-income countries emphasizing the period from birth until five years of age. The United Nations (2012) recommends that these services range from birth through eight years of school going age. This is because a longer holistic developmental approach extends beyond the initial 1000 days of life

and carries through to the years of formal schooling (Richter et al., 2012). Also, rates of developmental progress may differ, as children acquire culture specific skills (Black et al., 2017).

The development of a child is not only genetically determined, as psychosocial and biological factors may also play a role (Grantham-McGregor, Cheung, Cueto, Glewwe, Richter, & Strupp, 2007). Multiple adversities in the form of nutritional deficiencies, high-crime communities and low-quality resources affect the development trajectory of a child (Black et al., 2017). An ordered sequence of language, cognitive, sensory-motor and social-emotional functioning emerges through the facilitation of ECDCE programmes (Engle, Black, Berman, de Mello, Gertler, Kapiriri, Martorell, & Young, 2007). These programmes influence health, cognitive functioning, social interactions and economic participation throughout one's lifespan (Irwin, Siddiqi, & Hertzman, 2007; Black et al., 2017). Without development facilitation, these factors not only influence the individual but also result in more widespread implications leading to economic burden on countries.

The scope of interventions in early childhood development should include promoting planned and safe pregnancy, nutritional support for both pregnant women and young children, assistance with delivery and postnatal care; social protection geared towards young children; preparation and support for parenting; child care for working parents; opportunities for young children to learn at home and with other children in safe environments, and preparation for formal schooling (Richter et al., 2012). Early childhood development care and education is a multifaceted issue that is complex in nature. It is, therefore, an important area of interest, particularly in low- and middle-income countries that lag in early childhood development care and education compared to high income countries.

In light of the above introduction, this thesis aims to assess the outcomes of an ECDCE initiative for vulnerable South African children. In order to accomplish this, a number of steps will be followed leading up to the overall aim of the thesis. Chapter 1 will highlight the importance of investing in ECDCE and outline the components of holistic ECDCE needed for optimal gains in early childhood. Chapter 2 focuses specifically on early childhood education, the factors that moderate the cognitive outcomes of education, the ideal outcomes of preparing a child for formal schooling,

and the effect of socio-economic factors on such ideal outcomes. The focus of Chapter 3 will be on the context of South Africa, and will discuss ECDCE statistics, initiatives and challenges in preparing children for formal schooling. In Chapters 4 to 7 a theory-driven evaluation of a home-based ECDCE programme in the Western Cape Province of South Africa will be presented. These chapters contain the method, results and a discussion of the evaluation.

Examining the Need to Invest in Early Childhood Development

The early years of a child are considered the most important developmental phase and can determine success and happiness later in life. The type of care that a child receives in the early years determines how they will relate to their surroundings in school and life in general. Without adequate care and stimulation, children are likely to suffer an increase in developmental dysfunction risk factors. These factors include poor nutrition and health, poor performance in school, low incomes in employment and an intergenerational diffusion of disadvantage to their children (Irwin et al., 2007). Poor development has been linked to a range of social and economic problems such as an increase in teenage pregnancy, crime, school dropouts and low levels of skills in society (Heckman, 2010).

Studies that have been conducted on early interventions for children show that in general, skills build upon existing skills. This is based on two schools of thought: first, that early learning in itself is a self-reinforcing motivation to learn more and acquire emotional, social and cognitive competencies, and second, early mastery of skills allows learning at later stages to be more efficient (Heckman, 2010). For this reason, devoting resources solely to adolescent remediation is not as effective as combining it with targeting disadvantaged children earlier on. A solid foundation renders future investments more effective (Cunha & Heckman, 2009).

In view of what has been introduced about the risk factors associated with poor development, adequate care leads to the development of positive critical competencies. Competencies that can be gained are twofold, non-cognitive and cognitive. Non-cognitive competencies encompass social, physical and emotional skills. Social competencies or skills relate to an assessment and avoidance of risk behaviours such as teenage pregnancy and early fatherhood, high school dropouts,

delinquency and unemployment. Physical competencies relate to positive outcomes from health screening, and emotional competencies encompass positive relationships that are developed from childhood through to adulthood. More directly, critical skills can be gained, such as intelligence, confidence, self-control, the capacity to communicate and co-operate with other children and adults (Department of Education, 2001).

Cognitive outcomes are related to school readiness, grade retention and academic achievement. School readiness refers to the level of competencies a child has when they begin school (Snow, 2006) which are important for later success. Grade retention is defined as requiring a student to remain in a certain grade level for a subsequent year, after having been at that level for a complete school year (Jackson, 1975). Cognitive gains influence a child's readiness and motivation to learn, and help the child to cope better as intellectual performance is also improved by the time they enter the school environment.

Cognitive skills or competencies are commonly referred to as hard skills and non-cognitive skills as soft skills (Bartik, 2011). The effects of soft skills developed from early childhood programmes become more profound with time in comparison to hard skills (Bartik, 2011). Research has shown that in the long-term college attendance, employment and earnings, and participation in risky activities are strongly dependent on the development of both cognitive and non-cognitive skills (Heckman, 2010).

When provided with a healthy start and solid foundation, a reduction in illness, drop out or repeat grades can result for young children. Although early childhood development programmes may not eliminate these risks, they do result in a minimisation in their occurrence. An increase in educational attainment because of improved cognitive functioning combined with a decrease in social and health risks are associated with an increase in income and improvement in overall health status (Anderson, Shinn, Fullilove, Scrimshaw, Fielding, Normand, & Carande-Kulis, 2003). This is particularly beneficial for societies with equality differences. In these societies, people prone to early pregnancy and parenting, and involvement in crime due to disadvantage benefit from decreased probabilities of these risks. In addition, from an early age children learn values that are important to the functioning of peaceful and democratic societies, by learning how to respect other human beings

and their rights and having an appreciation for diversity and tolerance (Department of Education, 2001).

Globally, there is evidence that societies that invest in children in the early years have more literate and numerate populations with the best health status (Irwin et al., 2007). Overall, there is consensus that due to rapid brain development in the early years, this is the stage where children lay a foundation for their values and social conduct as adults. The likelihood of illness is reduced when provided with a healthy start. This is dependent on providing children with the correct nutrition, health provision and a safe environment. Suitable educational experience also needs to be provided in pre-school years to have a positive impact when formal schooling begins (Department of Education, 2001).

It is proposed by Irwin et al. (2007) that there are multiple spheres of influence that affect early child development. These range from individual factors such as genetic and early childhood development programmes and services, and regional, national and global environments. Irwin et al, state that within each sphere of influence, social, economic and cultural factors will ultimately affect the type or quality of care that a child receives.

There is a compelling argument in favour of the economic gains of early childhood development, with economists stating that it is among the most powerful investments that countries can make in people (Irwin et al., 2007). Parents, especially mothers who enrol their children in early childhood interventions can be freed to engage in employment, raising the income of the families. This is particularly beneficial for poverty-stricken households (Department of Education, 2001). As an adult, the child will gain from increased productivity, which means higher earning and a better standard of living. Longitudinal studies with low-income families of children who participated in pre-school interventions show that there is a R7 return on investment for every R1 invested in the cognitive and physical wellbeing of a child, (Department of Education, 2001).

By investing in quality early childhood programmes, the skills of the children are enhanced and this can be carried to adulthood resulting in a larger pool of skilled labour in local economies. This increases per capita earnings, the most important gain in local economic development. Per capita earnings are positively correlated

with an increase in the number and quality of jobs (Bartik, 2011). Heckman (2010), however, cautions that these benefits are best gained from sustained high-quality learning experiences beyond the early childhood years.

Components of Holistic Early Childhood Development Care and Education Interventions

In order to achieve positive cognitive and non-cognitive gains from early childhood development care and education programmes, an integrated approach is required. This holistic approach must take into consideration a child's nutrition, health, psychosocial, education and other environmental factors within the context of the family. These factors interact in the period of rapid early development where a child needs good nutrition to be healthy, which allows for the successful development of brain functioning. The attachment that children develop with their caregiver(s) is also instrumental in the type of social interactions the child will develop through their life course.

Health and Nutrition

Inadequate nutrition and health increase the risk of premature birth, low birth weight, stunting, wasting and child mortality. These indicators are used to assess and inform the health status of children. Low birth weight refers to babies who are born below 2.5 kg at birth. Children with low birth weight can have developmental delay and are susceptible to other disabilities (Children's Institute, 2012). Stunting occurs when a child's height for their age is less than two standard deviations from the mean. This occurs because of chronic poor nutrition and leads to developmental delay and poor cognitive function (Children's Institute, 2012). A healthy child should gain approximately 2-3 kg of body weight per year. When the child's weight for their height is below two standard deviations from the globally recognised cut-off point, the condition is referred to as wasting. In severe cases of malnutrition, infant mortality is increased. This is defined as the probability of dying within the first year of life. Under-five mortality is the probability of a child dying between the period of birth and the fifth birthday (Children's Institute, 2012).

Receiving adequate nutrition is listed in policies as a right for every child. This process has to begin *in utero*, before the baby is born. The mother needs to be

nourished adequately during pregnancy. In the first few months of an infant's life, it is recommended that they are breastfed to receive all necessary nutrients (Irwin et al., 2007). When a child is malnourished, they are likely to suffer from poor mental and physical development (Winicki & Jemison, 2003) and have lower functioning immune systems that are susceptible to infection. Low levels of protein, iron and iodine also contribute to the development of chronic illness (UNICEF, 2006). More than half of child deaths globally are attributed to poor nutrition, and where death does not result, there is a loss of human potential from poor intellectual and psychological development (Irwin et al., 2007). Good nutrition should be linked to good health promoting measures such as immunisation and other screening services, to protect children from a range of preventable terminal diseases. Good medical care needs to be in place in the event of illness. This reduces the chances of immediate threat and the future burden of disease, especially for groups that are most vulnerable (Irwin et al., 2007). Screening services ensure that any developmental impediments that could affect future learning can be identified early and dealt with (Anderson et al., 2003).

Relationships and Psychosocial Development

As part of the developmental process, children need quality relationships. The best environment for a child to thrive and grow is one that is warm and responsive, where the child is protected from inappropriate punishment and disapproval (Irwin et al., 2007). Young children receive most of their environmental stimuli from family members. The most important stimuli result from parenting skills directed at a child, where consistent care, support and affection are required. Studies show that in both humans and animals, the type of maternal care produces lasting effects on anxiety, stress reactivity and memory function (Grantham-McGregor et al., 2007). Infants need to be able to learn how to communicate effectively with others and play with other children (Ramey & Ramey, 1998). Play and other interaction processes allow a child to form secure attachments with their caregivers and form social identities (James, 1993). Whether structured or unstructured, the environments where these interactions take place need to be safe with developmentally appropriate resources made available. Family environments are believed to foster socio-emotional abilities as well as engagement, while inappropriate environments can result in maladaptive behaviours leading up to criminal activities (Hecknam, 2010).

Early Childhood Education

Economists have shown that investments in early childhood development care and education programmes can be less costly than more traditional development attempts for young adults. Of particular interest is the global emphasis on the high economic returns of investing in early education schemes (Young & Mustard, 2008).

A number of studies have provided evidence that participation in early childhood development care and education programmes correlates positively with an increase in enrolment and retention in both primary and secondary school years (Myers, 1995). Higher academic performance has been shown to result in increased earnings and improved social attachment (Young & Mustard, 2008) because concepts grasped from school can be applied in outside contexts. Heckman (2000) stated that early childhood development care and education is a much more effective means of improving cognitive and social development than formal schooling itself, as this is the stage where rapid brain development takes place. Equipping children early with basic mathematics and literacy skills allows for easier comprehension from the initial school years.

Teachers have identified weakness in academic skills, difficulty in following directions and working within a group as factors that are associated with difficulty in transitioning from pre-school to formal schooling (Rimm-Kaufman, Pianta, & Cox, 2000). Skills such as the ability for focused attention and self-regulation increase the likelihood of a child engaging in specified tasks and being able to participate effectively in academic activities (Duncan, Dowsett, Claessens, Magnuson, Huston et al., 2007). These are the characteristics that need to be cultivated in order for young children to transition effectively from pre-school to formal schooling. This notion is further substantiated by Li-Grinning, Votruba-Drzal, Maldonado-Carreno, and Haas (2010), that children who are ready for formal schooling will exhibit self-regulation, perseverance and attentiveness.

Preparation for schooling in pre-school years extends beyond linguistic and cognitive skills; it entails the enhancement of social and emotional development (Shonkoff & Phillips, 200). A child who exhibits characteristics of being able to suppress impulsive behaviour, pay attention and relate to both their peers and adults is able to

take advantage of learning opportunities (Duncan et al., 2007). These characteristics assist children to master concepts easily and increase the ability to interact with other children.

Academic achievement is a cumulative process where cognitive skills build upon each other; not only are new skills learned with subsequent schooling years, existing ones are also improved (Pungello, Kuperschmidt, Burchinal, & Patterson, 1996). Although there are sound theories that propose that individual differences alone are adequate to influence future academic skills and behaviour, there is insufficient rigorous research to prove this (Duncan et al., 2007). Children with prior cognitive engagement before formal schooling have an advantage allowing them to perform better than those who have not. In a study by Stevenson and Newman (1986), children's achievement test scores in school correlated positively with prior cognitive stimulation. The effects of development at this stage are reported to have lifelong effects.

Pre-school attendance can influence behaviour patterns. International longitudinal studies have found evidence that language skills developed in the first two years correlate with literacy performance and antisocial behaviour in teenage years (Stattin, 1993). The act of reading to a child and the interaction they encounter with a caregiver, which may involve touch, contributes towards good language skills and behaviour (Young & Mustard, 2008). Literacy competence is related to life expectancy where countries that have high literacy rates also tend to have healthy populations with fewer developmental problems (OECD, 2000).

Children who come from disadvantaged backgrounds receive the most gains from attending pre-schooling activities (Feza, 2012). This is because they start at a lower level of development than children from higher socio-economic families do. A meta-analysis conducted by Dhuey (2011) found that the outcomes of a subsidised pre-school were stronger for high-risk minority groups.

Policymakers in low- and middle-income countries recognise that poverty and malnutrition are associated with poor health and increased infant mortality. However, there is less recognition of the value of early interventions (Gratham-McGregor et al., 2007). A lack of a single strategy for promoting early childhood development care and education and a lack of globally accepted indicators that make it difficult to

monitor progress have been identified as some reasons for minimal investment in these interventions. In addition, governments respond more to short-term effects and see less value in justifying long term-investment (Engle et al., 2007), especially where resources are limited. Development services for children are disjointed, with few regulatory guidelines and limited attention to quality and monitoring (Black et al., 2017).

Statistics from low- and middle-income countries reflect that 40% of children live in extreme poverty, an estimated 150 million children suffer from malnutrition and 10,5 million die before the age of five from preventable diseases (Irwin et al., 2007). This has resulted in disparities in the development of children in low- and middle-income countries compared to children in high-income countries. Achievement scores of children in low- and middle-income countries are lower than those of children in the same grade in high-income countries (Gratham-McGregor et al., 2007).

In light of this, however, there has been an increase in awareness of the need to invest in early childhood development care and education. By 2005, at least 30 low- and middle-income countries had policies on early childhood development care and education, the World Bank had financed 52 countries for childhood development programmes, and UNICEF was assisting up to 60 countries in supporting parenting programmes (Engle et al., 2007). Child development information is being incorporated in growth-monitoring charts and government-supported pre-schools have also been on the increase in the past 15 years.

A number of low- and middle-income countries have put initiatives in place to improve the well-being of children. A programme was implemented in Guatemala to improve the diets of pregnant women, which in turn improved the health and nutrition of infants. Follow-up studies showed an increase in benefits on schooling, reading and intelligence tests even through adulthood (Maluccio, Hoddinott, Behrman, Martorell, Quisumbing et al., 2006). In Mexico, a conditional cash transfer scheme coupled with nutritional supplements for children was associated with an increase in motor development and improved growth (Behram & Hoddinott, 2005; Gertler & Fernald, 2004; Hoddinnot & Skoufias, 2004). In Colombia, a study was done on a programme that combined feeding and stimulation of children. Results showed that children who enrolled for a longer period in the programme received greater gains.

Furthermore, children who only received food supplementation without stimulation did not attain the same psychological development as those who received both (McKay, Sinisterra, McKay, Gomez, & Lloreda, 1978). An evaluation of a parenting programme in Bangladesh indicated that mothers who attended a child education programme for a year displayed more child-rearing knowledge when compared to mothers who did not attend the programme (Aboud, 2007). Although low- and middle income countries are lagging in early childhood development care and education, these studies prove that not only are low- and middle income countries making an effort, they are receiving positive results from their initiatives. South Africa is, however, the developing country of interest here and will be discussed in depth in Chapter 3.

Conclusion

Evidence shows that the benefits of investing in early childhood development care and education far outweigh the costs involved. Countries that commit to this endeavour suffer less of an economic burden and fewer social challenges. There is compelling evidence that early childhood is an opportune time to reduce the negative consequences of children born into disadvantage and assist in redefining the life trajectory of these children. The longer the delays in intervening as a child gets older, the more expensive an undertaking it becomes. Children can benefit from both cognitive and non-cognitive gains, which together contribute towards creating responsible citizens who contribute to growing economies and improving livelihoods. There has been an increased awareness of the importance of this investment in low and middle-income countries in the last decade, with suitable policies formulated. However, more needs to be done to lessen the gap with high-income countries. Resource constraints in low and middle-income countries contribute towards the lag in childhood development initiatives. This necessitates further investigation of where these limited resources can be applied to increase efficiency, effectiveness and reach.

CHAPTER 2

Early Childhood Education

The aim of early childhood education programmes is to develop a child's cognitive, emotional and social functioning. Cognitive outcomes are linked directly to the educational aspect of early childhood development care and education programmes, commonly referred to as early childhood education. Particularly, early childhood education in the form of pre-school has the main objective of preparing children for formal schooling. Studies show that children who have been exposed to pre-school adjust better to the formal schooling environment and have better cognitive outcomes, compared to children without previous exposure. A number of studies will be discussed to demonstrate the benefits of pre-school. Factors that moderate these benefits or outcomes will also be discussed.

Pre-school refers to the period from birth until a child begins formal schooling. In most countries, it specifically refers to the year before entry into formal schooling (Schweinhart, 2006). Pre-school programmes started to gain popularity because of evidence from human brain research on early childhood programmes that proved the value of good childhood education (Schweinhart, 2006). Simultaneously, there was an increasing trend of mothers joining the workforce as well (Hayes, Palmer, & Zaslow, 1990; Schweinhart, 2006) who required care for their children. There is much interest on the impact of early childhood education programmes in both high income and low- and middle-income countries, in order to align policy efforts to mitigate children at risk of school failure in earlier grades (Camilli, Vargas, Ryan & Barnett, 2010).

Although not the best or only predictor of adult outcomes, Intelligence Quotient (IQ) is positively associated with success in a number of areas in life (Currie, 2001). IQ scores have been used as a predictor for success in areas such as academic achievement, job performance and income generation. Scientists, however, acknowledge that intelligence is the result of the influence of both genetics and the environment (Currie, 2001).

As a result, it is globally becoming the norm for young children to experience educational preparation in formal institutions in the form of pre-school. In high-income countries, progress in school was found to be determined by early cognitive and socio-emotional development of a child (Currie, 1999; Grantham-McGregor et al., 2007; Pianta & McCoy, 1997). Lack of cognitive preparedness means that children struggle to cope with the intellectual demands when they begin school (Ramey & Ramey, 1998). Early education programmes have been shown to impact on schooling outcomes and life-long learning. Lack of school readiness, on the other hand, is correlated with low levels of academic achievement, grade retention and school dropout (Ramey & Ramey, 1998). There has been an increase in scientific evidence over the past few years showing that these negative effects can be reduced (Ramey and Ramey, 2004).

The majority of longitudinal studies that have been conducted on the benefits and impact of pre-schooling emanate from the United States of America. Two directly comparable prominent studies are the HighScope Perry Pre-school (Schweinhart & Weikart, 1997) and Abecedarian study (Ramey & Ramey, 1998). Both used scientifically rigorous methods with a sufficient sample size and a low attrition rate, allowing more reliable conclusions to be made. These studies not only had the objective to demonstrate the lasting effects of early education interventions; they also assessed two different approaches to pre-school learning.

The HighScope Perry Pre-School Study

The HighScope Perry Pre-school study was based on the HighScope approach that is research based and now widely used by teachers around the world, including in South Africa (Clasquin-Johnson, 2007). It is based on Piaget's theory of assimilation and accommodation. This theory emphasises that children are intentional learners who learn best when they plan, execute and review their own activities (Schweinhart, 2003).

Target population.

The HighScope Perry Pre-school project targeted children born into and living in poverty. A total of 123 African-American children aged 3 and 4 years were selected

to participate in the study. These children were believed to be at risk of poor outcomes at school (Schweinhart, Barnes, & Weikart, 1993). Socioeconomic status of the parents of participating children was determined by the parents' years of schooling and occupational levels, and the ratio of rooms per person in their respective households (Schweinhart, 2003). From the 123 children selected to participate in the study, 58 were randomly assigned to the pre-school programme and 65 were assigned to a control group. Although raising ethical concerns, the control group did not receive any pre-school programme. Data were collected annually from both groups at the ages of 3 through to age 11, and follow up data were collected at the ages of 14, 15, 19 and 27 (Schweinhart et al., 1993) and the age of 40 (Schweinhart et al., 2005). There was a missing data rate of 6% across all measures (Schweinhart et al., 2005).

Programme activities.

Using the HighScope approach, teachers guide children to plan and set up their own activities and daily routine. This is meant to encourage active learning of key experiences and encourage both individual and group development (Schweinhart, Montie, Xiang, Barnett, Belfield, & Nores, 2005). Key programme components in the study were a 12½ hour per week programme based on a 'plan to do' approach where children plan for themselves the materials they will work with and what they will do with them. The programme emphasised learning in the areas of language and literacy, initiative and social relations, music, movement, classification, numbers, space and time. This was achieved using developmentally appropriate practices for the age groups. A child to staff ratio of no more than 10 children per teacher was maintained. Programme staff were highly trained in early childhood education, and they were consistently supervised and trained. Pre-school staff maintained contact with parents, including 1½ hour weekly home visits on weekday afternoons.

Outcomes.

The study yielded positive results. Participants who received the pre-school programme outperformed those in the control group on intellectual and language tests from pre-school through 7 years of age, and also on achievement tests at the ages of 9, 10 and 14, and literacy tests at ages 19 and 27. Results also revealed that 65% of those in the experimental group completed high school as opposed to 45%

from the control group (Schweinhart et al., 2005). Economically, at the age of 27, 69% of the participants in the experimental group were employed as opposed to 56% in the control group and at age 40 employment results were 76% and 62% respectively. In addition, 2% of participants in the experimental group were receiving an income from family or friends at the age of 27 as opposed to 16% in the control group (Schweinhart et al., 2005). Concerning criminal involvement, 7% of the participants in the experimental group had been arrested more than five times by the age of 28, compared to 49% of participants in the control group (Schweinhart, 2003).

The Abecedarian Pre-School Study

The Abecedarian approach as first proposed by Bertalanffy in 1928 was based on systems theory. According to this theory, the development of a child is linked to a process of on-going interactions with environmental factors ranging from societal forces, social systems and relationships with caregivers. Interactions with neighbourhoods, schools and the society at large all contribute. These factors interact and affect the child's physical and psychological well-being (Bertalanffy, 1975; Ramey, MacPhee, & Yeates, 1982). General systems theory shows how influencing the environment of the child by supporting positive changes in turn results in long-term effects in one's life span (Campell, Ramey, Pungello, Sparling, & Miller-Johnson, 2002).

Target population.

A total of 111 infants with an average age of four months were selected to participate in the study. They were considered high-risk children owing to the level of maternal education and family income. As part of the selection criteria, the children had to be free from any known biological conditions associated with motor, sensory and mental disabilities (Campbell et al., 2002). Of the 111 infants selected, 57 were randomly assigned to the experimental group, and 54 were assigned to the control group. Children in the control group were enrolled in other child care options available in their communities.

Programme activities.

The Abecedarian approach utilises a combination of teaching and enrichment strategies that comprise of learning games, conversational reading, language priority and enriched care giving (Ramey, Sparling, & Ramey, 2013). The Abecedarian pre-school project study occurred in two phases. The first phase served children from the age of infancy (average 4.4 months) to the age of five through a full-day programme (eight hours a day, five days a week for fifty weeks in the year). The programme provided free nappies, food, transportation, academic, physical and social enrichment activities. Activities were individualised for each child. Staff-to-child ratio was 1:3. As the children grew older, the ratio increased to 1:6 and the curriculum became more specialised in language and literacy development for the age group. Parents of the experimental group children were also involved as they received counselling on child health and nutrition and attended social events. Families in the control group also received social services where required (Campbell et al., 2002).

The second phase was at school-going age where school-age support was provided to the same cohort of children from phase one. Random assignment was again employed to either assign the children into the experimental or control group of the second phase. The school age intervention encompassed a home-school resource teacher at a student-staff ratio of 1:14. A home-school resource teacher provided the participants with individualised curriculum activities to reinforce reading and mathematical skills learnt at school. This therefore resulted in four cohorts. The first was the experimental-experimental (EE) group of children who were in the experimental group at both pre-school and school-age phase. The second was the experimental-control (EC) group of children who were in the experimental group at pre-school phase and then in the control group at school-age phase. The third was the control-experimental (CE) group which had children in the control group at pre-school phase and then in the experimental group at school-age phase. The last cohort, the control-control (CC) group had children who received no treatment at both phases. All cohorts were measured on social and intellectual development at ages 3, 4, 5, 6, 8, 12, 15 and 21. Of the original 111 participants, 104 were available for assessment at the age of 21 due to attrition.

Outcomes.

Results comparisons for the four groups revealed a trend toward a pre-school effect for verbal IQ and performance IQ with no effect for school-age treatment. Children who were in the programme group in both the pre-school and school-age phase had greater gains than children who only received the school-age support. There were no interactions found for the combination of pre-school and school-age treatment. Children in the pre-school experimental group had a lower rate of grade retention compared to children in the control group (31.2% vs. 54.5% respectively). They also scored higher on reading and mathematics performance. By the age of 15, participants in the pre-school experimental group were less likely to need special attention in comparison with the control group (31.2% vs. 47.7%). By the age of 21, participants in the experimental group were more likely to have attended college (35.9% vs. 13.7%) or be in school (42% vs. 20%) and were more likely to be engaged in skilled jobs (47% vs. 27%). Overall, children in the pre-school experimental group scored significantly higher on cognitive tests, attained more years of education, were more likely to be engaged in skilled jobs and were less likely to become teenage parents compared to children in the other groups (Burchinal, Campbell, Bryant, Wasik, & Ramey, 1997; Burchinal, & Ramey, 2001; Campbell, Pungello, Miller-Johnson, Campbell, & Ramey, 1995).

Key findings in the HighScope Perry Pre-school and the Abecedarian studies provided evidence that having a pre-school experience particularly in comparison to none, enhanced holistic development in children (Campbell et al., 2002; Schweinhart et al., 2005; Sylva, Melhuish, Sammons, Siraj-Blatchford, & Taggart, 2004). Although these studies showed that positive results are associated with pre-school interventions, these types of study are difficult to implement in real life settings. Both studies were highly controlled with extensive dosage and expert supervision. However, a recent five-year study to evaluate longitudinal effects of a voluntary pre-kindergarten programme in the United States by Lipsey, Farran and Hofer (2015) revealed a different set of results. A randomised sample of 1076 children was assessed from Pre-K through to the third grade. A total of 773 of these children attended a Voluntary pre-K programme in Tennessee, USA and 303 children who could not attend due to lack of space in the programme, formed the control group.

Most of the children in the control group received home care, but almost 30% of the control group sample either attended private child care or attended Head Start.

At the end of pre-K, children in the programme group had significantly higher scores on six subtests representing literacy, language and mathematics, with the largest effects on two literacy measures. At the beginning of kindergarten, both groups were rated as highly positive about school. The programme group was rated as better prepared for kindergarten work and displayed more positive peer relations. There was a change in the first grade, where teachers rated programme children as less prepared for school and displaying negative feelings about school. By the end of the second grade, the programme group scored lower than the control group on most of the achievement measures. The evaluators noted that their findings were unexpected and divergent from popular view, albeit not necessarily incorrect.

Attention has since diverted from assessing the simple effects of pre-school attendance. It has turned towards the underlying processes that result in favourable outcomes (Sylva et al., 2004). A number of factors have been identified to be associated with pre-school outcomes. For example, a child's health and nutrition as well as their psychosocial development, play a role in determining how prepared or unprepared a child is for schooling (Leslie & Jamison, 1994). There is an active process where a child is engaged with their environment in order to fulfil their needs (Sroufe, 1979). This means that at every stage of development a child will draw on both what happens externally and internally to meet the demands of their development (Teo et al,. 1996). It is therefore paramount that research takes into consideration, which factors influence preparedness for schooling and assesses how they influence pre-school outcomes (Sylva et al., 2004).

Moderators of Early Childhood Education Outcomes

Factors that affect the direction and/strength of the relation between interventions and early childhood education outcomes can be referred to as moderators. Moderators are variables that affect the strength of the relationship between two other variables (Baron & Kenny, 1986). Two studies, the Effective Provision of Pre-school Education and the Cost, Quality and Outcomes studies will be discussed in

more detail to demonstrate the effects of these moderating variables. Results from other smaller studies will also be incorporated in the discussion.

The Effective Provision of Pre-school Education (EPPE), based in the United Kingdom, is a longitudinal study that investigated moderating effects of pre-school outcomes (Sylva et al., 2004). A sample of 3000 children across 141 early childhood development care and education centres was selected randomly. Children were selected from six different types of pre-school provision centres, which were playgroups, private day nurseries, local authority or voluntary day nurseries, nursery schools, nursery classes and integrated centres that combine both care and education. A playgroup is a type of care where children play as a coordinated group under adult supervision. Nurseries are centres with more organised activities where children engage in educational play under the supervision of a qualified professional. A home group that encompassed children who received either minimal or no pre-school was also included in the sample. The study was designed to assess three particular issues, namely the effects of different types of pre-school provision, how the structure and process characteristics of the different pre-school influenced the outcomes and the contribution of child and family characteristics on the children's progress (Sylva et al., 2004). The longitudinal research approach employed was useful in clarifying the interaction of child characteristics and particular pre-school centres over time. Child and family characteristics that were collected included the parent's age, language and ethnicity, socio-economic characteristics, qualifications, marital status and the child's health and development behaviour, their activities and history of child care history and pre-school provision (Sylva et al., 2004).

The Cost, Quality and Outcomes study was initiated in 1993 (Cost, Quality & Outcomes Study Team, 1995). In the initial study, a sample of 401 centres in the United States of America were selected which included full day child care for profit and non-profit centres across four different states in the USA. Centres had to be open for 11 months per year, for five days a week to be included in the study. Stratified random sampling was utilised. Within each selected child care centre, two classrooms were randomly selected for observation. Characteristics of the sample in the study revealed that participants were on average more advantaged than families in the USA in general (Peisner-Feinberg & Burchinal, 1997). Data were collected on the quality of services provided in these centres, as well as the costs associated with

the services. Data were also collected on the family background, child characteristics and outcomes of the participants. Specifically, four areas were investigated in this study. These are the quality of the child care centres, the relation between family characteristics and child care quality, teacher perception of teacher-child relationships and the observed child care quality, and the moderating effects of family and child characteristics on the children's outcomes. The children were followed over a four-year period from pre-school to the end of second grade to assess their developmental progress (Peisner-Feinberg, Burchinal, Clifford, Culkin, Howes et al., 1999).

In both the EPPE and Cost, Quality and Outcomes study, the Early Childhood Environment Rating Scale Revised edition (ECERS-R) was used to assess the implementation of services in the different pre-school centres. The scale uses subscales based on space and furnishings, personal care routines, language reasoning, activities, interaction, programme structure and adult interactions (Harms, Clifford, & Cryer, 1998). Ratings on the scale on each dimension are on 7-point scaling ranging from 1 = inadequate to 7 = excellent. Observations are made and the higher the score on each dimension, the higher the quality.

At varying levels of influence, the quality of interactions, family background, home environment and child characteristics are moderators of the relationship between the type of pre-school that a child attends and the outcomes attained. Each of the moderators will be discussed in turn.

Quality of pre-school interactions.

In the EPPE study, there were significant differences related to pre-school settings that were reported to influence positive outcomes for children (Sylva et al., 2004). These authors particularly found that high quality is associated with centres that incorporate both care and education for children. State sector or education maintained centres (nursery schools and classes and integrated centres) rated higher than voluntary or private centres on quality. There was a significant association between high centre quality and reduced anti-social behaviour. These children also displayed more independence by the time they began primary school (Sylva et al,. 2004). High-quality centres are related to better intellectual and behavioural development for children (Sylva et al., 2004).

In the Cost, Quality and Outcomes study the higher the quality of care that a child received, the better the developmental outcomes. This was the case across different family circumstances (Peisner-Feinberg et al., 1999). High-quality child care was also associated with long-term benefits. Children who received high-quality care had better language, mathematics, attention and sociability, which lasted from pre-school to second grade of formal schooling (Peisner-Feinberg et al., 1999). Children who received high-quality pre-school care had better cognitive outcomes regardless of their classroom experiences in primary school (Peisner-Feinberg et al., 1999).

Pre-school classroom practices and teacher-child relationships are two dimensions of child care quality that were assessed in the Cost, Quality and Outcomes study. These were found to be differentially associated with children's outcomes. Classroom practices, which encompass the activities and materials used for learning, were strongly associated with language and mathematics skills development. The higher the quality of the learning materials and activities used, the better the language and mathematics skills outcomes. The teacher-child relationship was strongly associated with the social and behavioural skills of a child (Peisner-Feinberg et al., 1999). In line with the latter findings, the National Association for the Education of Young Children (NAEYC), a professional organisation that promotes excellence in child education, identifies the approach a teacher uses as a contributing factor to programme quality (NAEYC, 1991). Pre-school quality is associated with teacher interaction, communication and participation (Dahlberg, Moss, & Pence, 1999; NAEYC, 1991). The presence of staff with good qualifications who display warm interactive behaviours is essential to foster the positive development of a child. An association between high staff qualifications and high ratings of quality was evident in the EPPE study (Sylva et al., 2004).

Quality ratings vary depending on context (Human Sciences Research Council, 2010). However, a range of authors have published literature that provides a consensus on what quality early childhood development care and education programmes should contain. These elements that have been identified through research are positively associated with good developmental outcomes. Quality is a multidimensional construct. At its core, however, it consists of components of the environment that are linked to positive child developmental outcomes (Pianta, Howes, Burchinal, Bryant, Clifford et al., 2005). The quality of a programme is

derived from the interactions and transactions between caregivers, children and materials (Bronfenbrenner & Morris, 1998; Pianta, 2003). Child care quality is defined by either process and/or structural variables. Process variables have a direct influence and structural variables have an indirect influence on a child.

Process variables relate to the actual experiences that occur in early childhood development care and education settings (Espinosa, 2002). These include the types of interactions between caregivers and children, the use of age appropriate activities, materials, learning opportunities and health and safety routines (Espinosa, 2002). With adult-child interaction, the sensitivity and responsiveness demonstrated towards the child and the facilitation of developmentally appropriate activities (Burchinal, Roberts, Nabors, & Bryant, 1996) are particularly important. Affective and informational interactions between caregivers and children have been linked to an accelerated development of verbal and cognitive skills (McCartney, Scarr, Phillips, & Grajek, 1985). Children tend to be more sociable, considerate and task oriented when caregivers engage in more positive verbal interactions (Phillips, McCartney, & Scarr, 1987). Process variables are assessed and measured by interviews and observation (Scarr, Eisenberg, & Deater-Dekard, 1994). Higher ratings of activities and interactions in places of care are associated with more advanced language, cognitive and social skills. Lower ratings are associated with increased behavioural problems (Espinosa, 2002). Process variables require interpretation by experts, making them difficult to regulate (Howes, Phillips, & Whitebook, 1992).

Structural variables can be regulated (Espinosa, 2002; Howes et al., 1992) as these can be easily measured and quantified. Structural variables include adult-child ratios, group sizes, qualifications and compensation of caregivers and adequate indoor and outdoor space (Burchinal et al.,1996; Espinosa, 2002; Scarr et al.,1994). Structural variables are believed to influence process variables (Howes et al., 1992). Small group sizes and lower adult-child ratios have been linked to more developmentally appropriate activities (Clarke-Stewart & Gruber, 1984; Howes & Rubenstein, 1985). A caregiver can attend to a child more readily providing individualised care in a smaller group. Children should be able to move freely during play, which encourages orderliness (Howes et al, 1992). This can be achieved through appropriate group sizes and space. The addition of one extra child to a group makes a meaningful difference to the quality of care received (Howes et al., 1992). The appropriate group

sizes are decided and regulated differently across countries, and can be further differentiated in different regions in the same country.

As a contributing factor to quality, Howes (1997) used two large-scale studies to assess the effects of caregivers with no formal child care training, those with a bachelor's degree and those with an associate degree in child development. Results showed that caregivers with a bachelor's degree utilised more complex play methods and the children had higher language scores. The worst outcomes were associated with caregivers who had no formal training. Caregivers with specific training in child care and development display higher sensitivity and responsiveness to children in comparison to caregivers with no training (Scarr et al., 1994). Caregivers with more formal training are therefore likely to have better quality interactions with children because of their understanding of the use of age appropriate activities.

Compensation of caregivers is important in controlling staff turnover. High turnover means that children have fewer opportunities to develop a stable relationship (Scarr et al., 1994) which affects the development of appropriate social behaviours (Howes & Stewart, 1987; Suwalsky, Zaslow, Klein, & Rabinovich, 1986).

The central issue in most countries is not whether to invest in early childhood education, but rather in which aspects, at what level and how much (OECD, 2006; Slot, Lerkkanen & Leseman, 2016). Understanding the interaction between process and structural quality variables is key to understanding critical components for investment in early childhood education. Research on the relationship between structural and process variables has revealed inconsistent findings with a variance within and between countries (Love et al., 2003). Slot et al. (2016) conducted a recent study to assess the relationship between structural and process quality variables. Comparing results of the quality of early childhood care and education across five European countries, there were different interaction effects found in the different countries. In Finland and Netherlands, larger group sizes were associated with lower service delivery quality. However, the more work experience a teacher had, the higher the quality of service delivery. In Finland and England, higher teacher qualifications were related to higher quality in service delivery. Interactions were also country specific. In Portugal, public sector schools had a higher process and curriculum quality compared to schools in the private sector, whereas in Finland, the

variation in quality was dependent on whether a class was located in a day care or in a primary school, with the latter delivering better services (Slot et al., 2016). In Germany, teachers with more experience had higher process quality with children with immigration backgrounds compared to teachers with less experience dealing with the same group of children. Work experience and continuous professional development were found to be important process quality moderators in most countries.

High-quality instruction activities that promote early literacy, such as phonemic skills and book reading, are associated with larger gains in language and literacy outcomes, specifically in high-quality classrooms (Burchinal, Zaslow & Tarullo, 2016). Higher dosage is also associated with stronger vocabulary and literacy skills, with higher attendance associated with stronger gains in literacy and mathematics skills (Burchinal et al., 2016).

Holistic early childhood development care and education programmes that include the components listed above are recommended. Programmes should not exclusively involve children. Home visits have been shown to affect parents and create permanent changes in the home environments (Heckman, 2010). This is more effective than simply providing parents with information; demonstrations on skill building increase the effectiveness of interventions (Engle et al., 2007). For optimal outcomes, all early childhood education and development programmes should be of high quality. Child care quality is positively correlated with a child's cognitive development and social competence, after controlling for the family background and individual characteristics of the child (Dunn, 1993; McCartney & Scar, 1987; Schliecker, White, & Jacobs, 1991; Whitebook, Howes, & Phillips, 1989). As there is an acknowledgement that pre-schooling can lead to better academic performance, social behaviour and improved citizenship, the quality of pre-school programmes should be regulated and evaluated for continuous improvement (Sheridan, 2011).

Poor-quality care is of concern because children are deprived of the conditions required to enhance their language and cognitive development during the advantage growth period of infancy (Burchinal et al., 1996). A number of studies have demonstrated the powerful effects of high-quality child care, where the effects were visible after controlling for background variables such as maternal education,

socioeconomic status and family structure (Dunn, 1993; Peisner-Feinberg & Burchinal, 1997; Phillips et al., 1987; Schliecke et al., 1991; Whitebook, Howes, & Phillips, 1990). Quality of care received at home and the quality of centre-based care influence a child differently. A study by Burchinal et al. (1996) showed that the quality of care a child received in care centres was independently related to overall communication skills and cognitive development by the age of one. Children who attend high-quality pre-school programmes tend to score higher on developmental outcomes compared to children who attend lower-quality programmes (Phillips & Howes, 1987).

The skills acquired by a child during pre-school are important in preparing them for formal schooling. High-quality programmes ensure the development of school readiness, which is the ability of a child to meet the demands of school by the time of formal school entry (Doherty, 1997). A child needs to have developed the appropriate set of competencies (Snow 2010) to be able to assimilate the curriculum content (Doherty, 1997). In a number of studies involving toddlers and children of pre-school age, the quality of care children received in community centres was moderately related to language development (Goelman & Pence, 1987; McCartney, 1984; Peterson & Peterson, 1986; Phillips et al., 1987; Schliecker et al., 1991). Larger gains were, however, evident in academic and cognitive performance as a result of attending high-quality centres (Campbell & Ramey, 1994; Lazar & Darlington, 1982; McCartney et al., 1985; Schweinhart & Weikart, 1997; Wasik, Ramey, Bryant, & Sparling, 1990).

Family background.

It was predicted by Teo, Carlson, Mathieu, Egeland, and Sroufe (1996) that psychosocial factors, particularly family background variables as well as the home environment are two factors that influence learning outcomes. Characteristics relating to the parents or the primary caregiver/s of a child are used to determine the type of background that a child comes from. These characteristics include the parent/s level of employment, their age, marital status, and their qualifications (Sylva et al., 2004). A parent's level of cognitive performance was linked to a child's cognitive performance in a number of studies (Burchinal et al., 1997). It can be direct through the influence of genetics and indirect through the parent's attitudes and

interactions, which improve the quality of the environment (Neisser, Boodoo, Bouchard, Boykin, Brody et al., 1996). The latter will be discussed further below.

Characteristics such as qualifications and level of employment collectively reflect the socio-economic classification of the parents, and this correlates with the type of care that a child is placed into (Sylva et al., 2004). Children of professional parents in the EPPE study rated higher on cognitive attainment compared to other children. The reason is that parents or caregivers from higher socio-economic groups tend to be more involved in children's educational activities and attend meetings in the centres where the child is enrolled (Sylva et al., 2004). In their study, Sylva et al. found that children who came from a two-parent household with parents in a higher socio-economic group and held relatively higher qualifications were significantly associated with higher pre-school outcomes. These children did not only score highly on cognition, but also on confidence and cooperation with other children.

Results from the Cost, Quality and Outcomes study showed children from more advantaged families were more likely to experience higher-quality care and have closer relationships with their teachers (Peisner-Feinberg et al., 1999). Children from higher maternal education and family income backgrounds were more likely to have higher-quality classroom practices and less conflicted teacher-child relationships (Peisner-Feinberg et al., 1999).

Children from families with 3 or more siblings in the EPPE study also tended to score lower cognitively than children from smaller families. Authors suggest that the more siblings there are in a family, the more divided the attention is towards a child (Sylva et al., 2004). Additionally, where English was not the first language of the child, cognitive scores were comparatively lower to other children, most likely because English is the instruction medium in the UK where the study was conducted.

Home environment.

The study by Sylva et al. (2004) found that the home environment as a moderator is more important compared to caregiver's education, occupation or income level. This is because what a parent does contributes to a child's development more than who the parent is in other spheres. It is essential for learning to begin at home, as during

this stage of rapid growth and development; the home is a child's main source of interaction.

In their study, Payne, Whitehurst, and Angell (1994) found that parent or caregiver's literacy interests were not associated with the literacy ability of a child. For instance, if a caregiver's reading interests were not directed at the child, it would not influence the child's language ability. Several studies have found a significant association between the frequency with which children are read to at home and their language abilities in pre-school (Crain-Thoreson & Dale, 1992). Children from higher economic groups are read to more often than children from lower economic groups, because of the availability and use of suitable reading material for that age group (Feitelson & Goldstein, 1986; McCormick & Mason, 1986). Due to this tendency, they score higher cognitively. In a longitudinal study by Duncan, Brooks-Gunn and Klebanov (1994), cognitive stimulation at home resulted in cognitive differences among different poverty and ethnic groups. This further provides evidence that the environment a child is exposed to at home plays a significant role for cognitive development.

Child characteristics.

In the EPPE study, Sylva et al. (2004) found individual factors of children such as birth weight, gender, language, health and development problems to be influential to pre-school outcomes. Children who had perinatal health problems, that is, within the first two months, had lower levels of cooperation with other children at pre-school. Gender also played a role, where girls had higher cognitive scores, peer sociability and confidence compared to boys.

There is a need for education planners to pay attention to the health and nutrition status of children particularly as teachers have increasingly reported that these determine children's participation and performance in class (Leslie & Jamison, 1990). Other consequences of poor health and nutrition are that children develop developmental delays, which either leave them unprepared to start school at the normal school going age or cause them to fail to learn adequately (Leslie & Jamison, 1990). Research has consistently shown that iron deficiency, anaemia and protein-energy malnutrition have a significant negative association with cognitive functioning

at pre-school age. Infectious diseases resulting from poor health, also lead to a loss in opportunities to learn (Leslie & Jamison, 1994). The nutritional and health status of children particularly born into high-risk conditions therefore raises a great concern about their educational outcomes (Teo et al., 1996).

The interaction of genetics and the environment explains childhood development as children mature and get older (Lippman, Moore, & McIntosh, 2011). Using an example of the height that a child grows to, good nutrition would ensure that they grow to their full genetic potential (Gottesman & Hanson, 2005). Nutrition facilitates proper body functioning for cognitive development to take place, but social stimulation, interaction and support are needed for shaping children's cognition (Lippman et al., 2011). There is clearly an interaction of effects that influence learning and its outcomes. The quality of maternal care that a child receives has lasting effects on memory function, ability to handle stress and anxiety (Gunnar, in press).

Overall, both the EPPE and Cost, Quality and Outcomes studies showed that the type of pre-school that a child attends affects their overall progress, even after controlling for background factors (Sylva et al., 2004). Although child, family and home characteristics were shown to create variance in the cognitive outcomes of the children, it was a low proportion of variance. The positive impact of pre-school was still significant after controlling for the aforementioned variables (Sylva et al., 2004). Centres that combined education with pre-school care and had highly qualified staff yielded better cognitive outcomes for the children. However, in general, pre-school does improve all children's development (Sylva et al., 2004). The children who had not attended any pre-school by the time they started primary school, had poor cognitive attainment.

Ideal Pre-School Outcomes

Previously, a child was assumed ready to begin school when believed to be old enough. Gessell's (1925) maturationist frame was the basis of this argument that children mature as they grow, and when they have reached a certain level of maturity, they are ready to begin formal schooling. Research has since provided evidence that in addition to maturity, early experiences exert a considerable

influence (Doherty, 1997). Five domains of child development have been identified as providing a holistic perspective on a full range of a child's capabilities in preparation for formal schooling. These are physical well-being and motor development, emotional development, age appropriate social competence, age appropriate language skills, and age appropriate cognitive skills and general knowledge. Each one of these domains will be discussed below.

Physical well-being and appropriate motor development.

A child needs to be able to resist common infections to avoid illness, which results in absenteeism from schooling in the early grades (Doherty, 1997). Absenteeism results in the loss of learning opportunities for a child to master more advanced academic concepts. A child must exhibit sufficient physical coordination for common tasks such as controlling a pencil and turning book pages without tearing them (Doherty, 1997). A lack of these skills can result in a child viewing him/herself as incompetent and withdrawing from classroom activities. Physical well-being and motor development do not only refer to lack of disease that impedes functioning. These two factors encompass the possession of adequate levels of energy that enable a child to concentrate and participate in school activities (Copple, 1997; Doherty, 1997).

Emotional health and a positive approach to new experiences.

A child requires a certain level of self-confidence to be able to try new tasks and defend against fear of new experiences (Doherty, 1997). According to Keating (1993) reactions to new situations and experiences can range from highly defensive to overly reflective. The key is to find a balance in the middle of the continuum. A child should exhibit curiosity about the world and should be eager to try new experiences while having some ability to reflect before acting (Doherty, 1997).

Early relationships between a caregiver and a child influence the latter's habitual way of reacting to new situations (Keating, 1993; Steinhauer, 1996). The repeated experiences that a child has with a caregiver must be affectionate, providing appropriate responses and sensitivity (Doherty, 1997). Secure attachments with caregivers allow the child to develop trust and be able to regulate their emotions

(Keating, 1990). Research has shown a link between secure attachment in early years and a child's ability to tolerate frustration and alter impulsiveness by the ages of four and five (Erickson, Sroufe & Egeland, 1985.)

Age-appropriate social knowledge and competence.

Children who exhibit appropriate conduct in the classroom in grade one and two have been reported to have higher performance scores than children who lack such conduct (Entwisle, Alexander, Cadigan & Pallas, 1986; Lambert & Nicoll, 1977). Disruptive behaviour in earlier grades is associated with poor performance in high school, in spite of a child's IQ level (Feldhusen, Thurston & Benning, 1970; Lambert, 1972). Success in the early years of school requires that a child adhere to the behavioural demands in the classroom. A child must be able to control his/her behavior, respect adult authority and his/her peers, be able to communicate effectively and cooperate with peers in assigned tasks (Doherty, 1997). Children adjust easily to the school environment when they are able to create and maintain positive relationships with other children (Ladd, 1990). Peer rejection, which can result in a child leaving school before completion, can be reduced by the development of social skills that facilitate peer interaction (Coie & Kupersmidt, 1983; Doherty, 1997; Ladd & Price, 1987).

As with the facilitation of appropriate emotional regulation, social competence in children is developed from early relationships with caregivers. Children with secure emotional attachments view themselves as worthy of love and can approach their peers with positive expectations (Doherty, 1997). Children, however, also need relationships with people of a similar age in their early years in order to develop social competence. The relationship between a child and adult is not equal as one has more power (Doherty, 1997).

Age-appropriate language skills.

Language development involves a child gaining control over their vocal cords in order to produce specific sounds intentionally (Doherty, 1997). When a child has appropriate language skills by the time they begin formal schooling, they are able to understand and communicate with other children and adults. A child must be able to

communicate their ideas, feelings and experiences in a manner that can be understood by adults and peers (Doherty, 1997). Studies in Canada and the United States show that a child's language competency in early grades accounts for 30-40% of a child's later reading abilities (Berninger, Proctor, De Bruyn & Smith, 1988; Biemiller & Siegel, 1991).

A child's vocabulary increases dramatically between the ages of two and four if they are provided with the appropriate opportunities to enhance their skills (McCartney, 1984; Whitebook et al., 1990). Appropriate developmental activities are important where a child is read to, asked questions and encouraged to describe learning material (Doherty, 1997).

Age-appropriate general knowledge and cognitive skills.

Cognitive skills in this context refer to a child's ability to identify, organise and analyse general information provided within their environment (Doherty, 1997). It is important that a child knows how to read, write and count. A child should also be able to discern where a story begins and ends and should be able to represent imaginary events symbolically (Rutledge, 1993). The ability to identify similarities and differentiate between objects, and being able to recite the information is reported to predict success in later academic endeavours (Doherty, 1997; Hess, Holloway, Dickenson, & Price, 1984; Reynolds, 1989).

The rate of development of cognitive skills is dependent on the maturation of the central nervous system of a child and physical and social experiences. The brain of a healthy child develops in a series of programmed events. Repeated conversation to a child creates the activation of metabolic reactions in the brain, which strengthens the connection in the neurons relating to auditory reception and memory. This increases the likelihood that a child will retain their experiences (Fishbach, 1992; Shatz, 1992). Studies in Canada, China, Japan and the United States showed that children across these countries experienced the same stages of cognitive development at approximately the same age (Case, Okamoto, Griffin, McKeough, Bleiker et al., 1996). The likelihood of a child being able to complete a certain task was predicted by a child's age. A child develops cognitive abilities in stages as the brain accordingly develops to be able to interpret the child's experiences.

Appropriate learning materials therefore need to be tailored accordingly with the child's age in the early years.

Experts in child development agree that social skills and emotion regulation are important in addition to language and basic cognitive skills. Children need to be able to cooperate and communicate appropriately in order to cope with the demands in the classroom and playground. A lack of these skills results in behaviours such as physical aggression and bullying which lead to peer rejection. Peer rejection is reported to lead to low self- esteem and lack of engagement in the school culture and activities (Coie & Kupersmidt, 1983; Dodge, 1983; Doherty, 1997; Ladd & Price, 1987. Children who enter formal schooling possessing this set of skills are able to inhibit impulsive behaviour, relate appropriately to adults and peers, handle frustration and stress, and take advantage of the learning opportunities provided to them (Doherty, 1997; Duncan et al., 2006).

Children rapidly develop their skills in the five domains discussed. Appendix B as adapted from Doherty (1997) provides examples of how a child would develop from two months to five years of age when provided with the necessary conditions to support development.

Socio-Economic Status and Early Childhood Outcomes

The relationship between socioeconomic status (SES) and academic competency has been a topic of research for more than 70 years. An association between SES and cognitive competence begins from early childhood (Bradley & Corwyn, 2002; McCall, 1981). The relationship between the number of risks and child development outcomes is almost linear (Leseman, 2002). The SES of individuals or families is a measure of economic and social standing that indicates whether a child belongs to a poor household. Children from low SES families belong to poor households and experience a range of risks to their development potential. The proper development of a child's cognitive, language, sensorimotor, social and emotional functioning which are needed to start formal schooling, are influenced by the child's well-being and family context (Engle & Black, 2008). High SES families can afford to provide goods, services, parental actions and social connections that facilitate healthy child development. Low SES children lack access to these resources and services

(Bradley & Corwyn, 2002). Children from low SES families suffer a greater risk of poor prenatal care, poor nutrition during pregnancy, premature birth and low birth weight. These problems, if not addressed, continue through childhood resulting in stunting, sensory impairment, inadequate nutrition and inadequate access to health care (Bradley & Corwyn, 2002). Additional issues such as illness in the home, crowding, family stress and lack of stimulation result in low SES children experiencing more serious consequences compared to higher SES children. Factors such as family stress and illness may be present in both high and low SES families. Researchers argue that it is the cumulative effect of risk factors that increase the likelihood of poor child development outcomes (Leseman, 2002).

Children raised in poverty tend to achieve less in school (Engle &Black, 2008). Studies in the UK, the Netherlands, and the USA show that socio-emotional competence, social adjustment, intellectual skill and school achievement are inversely related to a range of risks in the family context with coefficients amounting to -.75 (Conger, Ge, Elder, Lorenz, & Simons, 1994; Leseman, 2002; Sameroff & Fiese, 2000; Sameroff, Seifer, Baldwin, & Baldwin, 1993). Child factors that were assessed include a child's prematurity, birth weight, IQ and temperament. Family variables assessed were parent's psychiatric problems such as depression, marital conflict, number of children in the family, single parenthood, job stress, low income and unemployment of breadwinner. Home environment factors assessed include housing conditions, unsafe and polluted neighbourhoods and frequent changes of residence. Other studies report a positive relation between SES and school achievement across different ages and areas of study (Engle &Black, 2008).

DeGarmo, Forgatch, and Martinez (1999) found that each of the SES measures of income, education and occupation of a child's parents are associated with better parenting. This in turn affects school achievement and behaviour. Particularly, poverty and low parental education are associated with a lower IQ and lower levels of school achievement (Bradley & Corwyn, 2002; Duncan et al., 1994; Zill, Moore, Smith, Stief, & Coiro, 1995). In a study conducted by Mercy and Steelman (1982) paternal education, maternal education and family income were used as measures for SES. Education, in particular maternal education, was found to be a stronger predictor of a child's intellectual attainment. Families of low SES children have lower education levels which reduce their ability for responsive stimulation towards

children. Child communication is dominated by commands and negative comments instead of explanations and elaboration to suit the age and development of a child. In addition, children from low SES families are less likely to be read to (Engle & Black, 2008) and have limited access to stimulating and learning materials in and out of the home (Bradley & Corwyn, 2002).

The link between SES and a child's emotional and social well-being is not as defined as with cognitive achievement. However, low SES children are reported to exhibit more social maladaptive functioning compared to high SES children (Bradley & Corwyn, 2002; McCoy, Firck, Loney, & Ellis, 1999). Predicting developmental pathways with precision is a complex task (Wachs, 2000). Different individuals can have different outcomes from the same set of circumstances depending on individual strengths. It is difficult to predict whether a child will develop particular health, cognitive or emotional problems. It is however easier to predict that low SES children will have more developmental problems compared to high SES children (Bradley & Corwyn, 2002). Improving school readiness to learn reduces poverty related differences. Programmes that have been reported to cultivate school readiness to learn include pre-school interventions and parenting programs that support early learning.

Preparation for Formal Schooling in High Income vs Low and Middle Income Countries

In contribution to increasing awareness of the value of preparing children for formal schooling, the Economist Intelligence Unit (EIU) reviewed research on the status of early childhood learning of member countries of the Organisation for Economic Co-operation and Development (OECD), including other countries with emerging economic markets in 2012. A total of 45 countries encompassing both developed and developing nations were assessed. Quantitative data and qualitative assessments were performed on early childhood education in these countries. Indicators of the state of early childhood education were categorised into four dimensions. The first dimension is social context, which encompasses malnutrition prevalence, under-five mortality rate, immunisation rate, gender inequality index and adult literacy rate. The second is availability, which includes pre-school enrolment ratio, early childhood development care and education and promotion strategy and

the legal right to pre-school education. Affordability, which is the third dimension, encompasses cost of pre-school programmes, government pre-primary education spending, and subsidies available for underprivileged families. The last dimension is quality which incorporates student-teacher ratio in a pre-school classroom, average pre-school teacher wages, curriculum guidelines, teacher training, health and safety guidelines, data collection mechanisms, links between pre and primary school and parental involvement and education programmes (The Economist, 2012).

Appendix A provides a summary of the ranking of these countries based on a total calculation of these dimensions. It shows that European countries have higher rankings with Nordic countries ranking the highest. The reasons for these countries performing well at pre-school are listed below. These countries enforce:

1. A legal rights-based approach coupled with comprehensive early childhood development care and education programmes and promotion strategies
2. The universal enrolment of children of the ages 5 or 6 into at least one year of pre-school
3. Subsidies to increase access for families that are underprivileged
4. Affordable cost of child care calculated relative to average wages
5. Setting high standards for pre-school educators and ensuring low student-teacher ratios.
6. Clear health and safety standards for pre-schools along with a well-defined curriculum
7. Parental involvement
8. An environment that strives to ensure that children are healthy when they enter pre-schools (The Economist, 2012).

In particular, Finland, which ranked the highest, ensures availability and affordability by offering free half-day pre-school classes to six year olds and day care for the rest of the day. To ensure quality, teaching is regulated systematically as a professional career where one has to obtain a bachelor's degree in education and many teachers

complete a master's degree. Teacher-student ratio is low at an average of one teacher to eleven pupils (The Economist, 2012).

High-income countries such as the United States, Canada, Australia and Singapore ranked in the lower half. Quality programmes do exist in these countries. However, they are not readily available or affordable for all members in society. The regulation of minimum standards also tend to vary in these countries (The Economist, 2012). Although these countries have similar high-income averages with Nordic countries, the latter has made greater efforts to instil the value of pre-school education nationally (The Economist, 2012).

Findings also revealed that pre-schooling was most expensive in countries with the worst availability, such as China. Pre-schools in Beijing have been found to charge fees up to six times as much as a top university in the region (The Economist, 2012). There is an inverse relationship between the availability of pre-school in a country and its affordability. The index shows that there is a correlation between the country's income per person and its overall ranking. The poorer countries have a lower overall ranking. The bottom six countries have characteristics of limited pre-school availability and overall lower quality associated with high costs (The Economist, 2012). These countries, particularly India that is at the bottom, has high rates of child malnutrition and mortality, as well as low rates of immunisation and literacy (The Economist, 2012).

The number of children below the age of 5 years in low and middle-income countries not reaching their full developmental potential due to stunting and poverty was revised to 249 million in 2010 (Lu, Black & Richter, 2016; Black et al., 2017). Children in low and middle-income countries generally have poor health and nutrition and as a result do not reach their full cognitive potential, especially in comparison to their counterparts in wealthier countries (Glewwe & Miguel, 2008; Grantham-McGregor et al., 2007; Black et al., 2017).

In 2000, the United Nations listed as its first and second Millennium Development Goals (MDGs), the eradication of extreme poverty and hunger and ensuring that all children complete primary school (United Nations, 2002). By 2015, these goals resulted in a decrease in extreme poverty, global hunger, child deaths, and an increase in school attendance. In 2015, 17 Sustainable Development Goals (SDGs)

were accepted by 190 world leaders. Of specific relevance is the inclusion of the goal to ensure inclusive and equitable education opportunities for all children. However, it should be noted that the SDG relating to education only mentions primary and secondary education and not pre-school education.

One of the key challenges in advancing the global priority for early childhood development care and education is a lack of understanding on how to frame, conceptualise, implement and govern related policies (Black et al., 2017). Scarcity of resources is a dilemma that a number of low-income and middle-income countries face, with the question of whether to provide more widespread access of basic services or to ensure higher quality. This is a widespread issue that similarly affects high-income countries. The UK is an example where attempts to increase availability have resulted in making trade-offs such as accepting less qualified teachers as opposed to those with the required national vocational qualifications (as cited in The Economist, 2012).

Long-term government commitment with an investment in the required resources is vital to establishing and maintaining good pre-school programmes (The Economist, 2012). In spite of clear scientific evidence on the benefits of investing in early childhood care and education initiatives, there is continued policy and donor neglect in this field (Dua et al., 2016). Furthermore, there needs to be an understanding of the priority research areas that will inform policy and implementation in order to ensure optimal return on investment in early childhood education.

Dua et al. (2016) conducted a priority setting exercise in 2015 in order to establish and set research priority areas. A total of 348 experts in the field of early childhood development care and education were identified and contacted to provide up to five top research questions. From a total of 74 participants who responded, 406 research questions were generated that were then organised into six thematic goals. Of particular interest was the top ranking question of “Can early childhood development packages focusing on nurturing care and parent support improve child cognitive development in rural low-income settings?” (Dua et al., 2016). Similarly linked to this research priority area, this thesis will focus on a caregiver home visiting support programme that aims to improve the developmental outcomes for children in a high poverty area in South Africa. The context of early childhood education in South

Africa will be discussed further in Chapter 3 and the home visiting intervention will be discussed in Chapter 4.

Conclusion

This chapter has highlighted the importance of pre-school education in equipping children with the means to cope socially and enhance their cognitive outcomes when they begin formal schooling. These benefits have been shown to continue to impact children through their adult lives. Different types of pre-school exist, where the better the quality of a pre-school, regardless of the type, the better the outcomes and the more prepared a child is for formal schooling. Teacher-child ratios and the nature of the relationship between the teacher and the child influence the quality of child-care. Pre-school quality is effective in producing positive outcomes in spite of family background characteristics. Setting and maintaining high standards in pre-school centres as demonstrated in the Nordic countries produce good outcomes overall.

The above literature and studies have provided some evidence that high-quality interventions as well as child and family environment factors can enhance cognitive performance. As discussed in this chapter, disadvantage of children should not only be defined as the level of income the family receives, rather it should also encompass the level of maternal education, the level of proficiency in the language of instruction in school and the risk of abuse or neglect towards the child. The more knowledge generated from the influence and interaction of these factors, the more that can be done to increase favourable pre-school outcomes. The ideal is for a child to be equipped on the five developmental dimensions from the first year through to the fifth year prior to beginning formal schooling. The following chapters will focus on the context of South Africa with the ultimate aim to investigate the interaction of these outcomes with a specific pre-school intervention that does not have the characteristics of the typical pre-school programmes presented in this chapter.

CHAPTER 3

Early Childhood Development Care and Education in South Africa

In the context of South Africa, which is the developing country of interest, a result of the long history of apartheid left a residue of socio-economic inequities among different racial groups. Black children were particularly discriminated against and suffered malnutrition and risk in injurious environments. At present, a substantial number of Black South African children do not have adequate access to health care, quality nutrition, social services and education (Atmore, van Niekerk, & Ashley-Cooper, 2012). White children had greater access to ECD services that resulted in a developmental imbalance between the groups (Richter et al., 2012). International organisations such as the United Nations intervened to ensure that the South African government regulate initiatives to encourage early childhood development care and education for all children (Martin, 2012). A shift therefore became evident by the year 2001 where the government had put more than 30 policies and laws into effect. This demonstrated its commitment towards improving the conditions of children, with an emphasis on those previously disadvantaged (Department of Education, 2001). It is argued that the future social and economic well-being of disadvantaged children can be improved by combining opportunities for learning with good nutrition and health (Walker, Wachs, McGregor, Black, Nelson et al., 2011). However, infrastructure problems and funding are currently barriers to achieving the objectives that are detailed in the policies governing early childhood development care and education (Richter et al., 2012). The Bill of Rights does make provision for children's rights to basic education and protection from abuse and neglect; however, more needs to be done to meet these needs effectively (Atmore et al., 2012).

In acknowledgement of the integrated approach which is needed to enable positive child development, different sectors in South Africa play a role in ensuring this objective. The Department of Social Development is one of the main bodies responsible for facilitating the provision of early childhood development care and education in South Africa. Provision covers children within the ages of 0 – 9 years, with a particular emphasis on children between 0 – 3 years old (Department of Social Development, 2006). The reality, however, is that 80% of children enter childhood

development programmes for the first time at the age of six to seven years old (Clasquin-Johnson, 2007). The White Paper on Social Welfare drafted in 1997 details what provision for children entails. It states the role of caregivers, parents and social professional services towards building a culture of investing in children's welfare. The document also addresses the requirements for registration of early childhood development care and education services (Department of Social Development, 2006). Public awareness and parent support have increased over the years due to efforts by the Department of Social Development, in collaboration with mass media and civil society (Biersteker & Richter, 2012).The Child Care Act drafted in 1983 regulates early childhood development care and education facilities as well as the payment of subsidies and grants. The Department of Social Development is responsible for the payment of child support grants especially for children living in circumstances of extreme poverty. Priority is given to orphan children as well as those affected by HIV/AIDS (Department of Education & UNICEF, 2006; Department of Social Development).

Parents are the main funders of early childhood development care and education centres. The government provides funding to children whose parents are too poor to do so, in the form of social assistance programmes such as the Child Support Grant (Atmore et al., 2012). The Child Support Grant is the largest child poverty alleviation programme in South Africa (Atmore et al., 2012) where each eligible child receives R350 per month. Although this grant is small, it contributes towards food, basic goods and services provision as well as education (Statistics South Africa, 2010). Registered centres also receive a subsidy, which is utilised for children whose parents' income falls below a certain level as calculated by the income means test (Atmore et al., 2012). This, however, means that only centres that provide care for the poorest families receive this subsidy (Giese, Budlender, Berry, Motlatla, & Zide, 2011). In the poorest areas of the country, traditional early childhood development care and education services are not readily available and the Department of Social Development provides for the development and funding of home- and community-based care. This provides child care options for parents who are in need of assistance the most and those who are in employment (Richter et al., 2012). In order to increase access and to enhance the quality of early childhood development care and education centres, the Department of Social Development has increased

funding to childhood development centres that cater for children from birth to four years of age. The Department of Education on the other hand has increased funding for Grade R which is applicable to children of five to six years of age (Department of Basic Education, Department of Social Development, & UNICEF, 2010; Atmore et al., 2012).

The Department of Health implements and regulates a policy that offers free health care services for pregnant women and children under the age of 6 years old. Their services incorporate Prevention of Mother to Child Transmission (PMTCT) of HIV/AIDS, immunisation for children, primary health care programmes, the Integrated National Nutrition (INN) programme, and the Integrated Management of Childhood Illness (IMCI) (Department of Social Development, 2006). These services have been implemented to contribute towards proper nutrition, growth and healthy development for young children.

The Department of Education regulates pre-primary educational development. The accreditation of early education providers as well as clarity of objectives are stipulated in the Education White Paper 5 on Early Childhood Development, which was drafted in 1995 (Department of Education, 2001). The policy focus of the White Paper 5 is on the implementation and regulation of the pre-school reception year that is discussed in more detail in the following chapter. The department strives for the standardisation of qualifications, training and remuneration of staff with regards to pre-school education (Richter et al., 2012).

Local authorities and municipalities within the different provinces and cities in South Africa have a constitutional and legal obligation to oversee service provision in early childhood development care and education services (Department of Social Development, 2006).

Inter-sector collaboration is important as it is vital that a child develops accordingly in all the different areas. One area is not necessarily more important than the other as development is an interactive process. Good progress has been made across the different sectors over the years in South Africa in an attempt to meet the objectives stipulated in policy. Statistics show that 97% of women do visit at least one antenatal clinic during their pregnancy, 91% of women deliver their babies with professional assistance (Saloojee & Slemming, 2012), and 98% of health facilities offer the

programme on prevention of mother to child transmission of HIV (Richter et al., 2012). In addition, 83% of births are registered (Martin, 2012) and 89% of children are fully immunised by the age of 1 year (Saloojee & Slemming, 2012). Concerning households, 87% of households with a young child have access to safe drinking water (Burns, 2012), and 82% of households with a young child are connected to mains electricity (Burn, 2012). Where support is needed, statistics show that 73% of young children receive the Child Support Grant (Martin, 2012).

In practice, the different sectors have a tendency to operate largely in isolation of each other towards children's development (Richter et al., 2012). To mediate this problem, the National Programme of Action for Children (NPA) was established in the Office of the President, in an attempt to bring departments to work together at a national level for all children in the country (Department of Social Development, 2006). Priority areas that were adopted by the NPA steering committee include integrating child health and nutrition, water and sanitation, social welfare development, child protection measures and early childhood basic education. The different departments and other child related structures are integrated to ensure they play their individual roles towards the common goal of ensuring positive child development in South Africa. At a provincial level, the Provincial Programme of Action for Children (PPA) facilitates inter-sector collaboration, planning and implementation of services for children across individual provinces.

South African Child Statistics

Families, communities, teachers and the South African government face a number of challenges in catering for child development. The most prominent social issues these parties face include poverty, health, education, and HIV/AIDS (Atmore et al., 2012). Below are statistics of the status of these issues in South Africa.

Out of an estimated total population of over 50 million people in South Africa in mid-2014, children constituted 18,5 million. Children are defined as being in the age range 0 – 17 years. Statistics South Africa, (2009) reported the population of children under the age of five years to be 5 068 900. A greater proportion of children reside in provinces with large rural populations, namely the Eastern Cape, Limpopo and KwaZulu-Natal (Children's Institute, 2012). Of the estimated 6,5 million children

under the age of seven 3,8 million of these (59, 2%) live in circumstances of extreme poverty (Department of Social Development, Department of Education, & Department of Health, 2004). This constituted more than half of young children in the country, resulting in a violation of the realisation of their rights according to the South African Constitution (Du Plessis & Conley, 2007).

Children from the poorest households are less likely to be living with both parents. Specifically, younger children (0 – 5 years) are more likely to be living with their mothers, whether or not the father is present (Children's Institute, 2012). Approximately 66% of children under the age of 5 years old were reported to be living in poverty (Streak, Yu, & van der Berg, 2009).

A very small portion of children (18%) in the most vulnerable stage of infancy (0 – 2 years) is in traditional early childhood development care and education programmes. Most are in the care of child-minders who are not trained or registered. Subsidies are made available to traditional early childhood development care and education centres by the government; however, centres that are not registered cannot receive funding (Biersteker, 2012).

The implemented policies in South Africa have resulted in an improvement in the development of especially previously disadvantaged children. The statistics presented below provide evidence of some positive outcomes from the mobilisation of early childhood development care and education services, as there has been a gradual improvement in child related development outcomes.

Infant Mortality

In 1998, the reported infant mortality rate in South Africa was 63 deaths per 1000 live births. In the same survey, the under-five infant mortality rate was reported to be 87 deaths per 1000 live births (Children's Institute, 2012). One of the Millennium Development goals which was adopted in 2000 is to reduce the under-five mortality rate by at least two thirds from the 1990 range of 60 deaths per 1000 live births, down to 20 by the year 2015 (Atmore et al., 2012). Attainment of this goal was projected to be achieved by 2015 in South Africa with a steady decline of deaths recorded from 52 deaths per 1000 live births in 2000 down to 34 in 2010 (Atmore et al., 2012).

Low Birth Weight

Low birth weight refers to babies who are born below 2.5 kg at birth. Based on the District Health Information System (DHIS) and the Perinatal Problem Identification Programme (PPIP), it was estimated that one in 10 children born alive in South Africa is born weighing less than 2.5 kg (Children's Institute, 2012). According to Kruger et al. (2003), 9% of infants had low birth weight and 11% were underweight. The Northern Cape is reported to have had the highest rate of low birth weight followed by the Western Cape then the Free State (Children's Institute, 2012).

Stunting

Although stunting rates have decreased since 1999, particularly in rural areas, it is the most common nutritional disorder affecting South African children. In 2005, the National Food Consumption Survey (NFCS) showed that 18% of children between the ages 1 – 9 years were affected. An estimated 1 in 4 children in the rural areas is affected. The Free State province reported the highest and most severe stunting rates, followed by the Northern Cape and Limpopo (Children's Institute, 2012).

Education Enrolment

Among children in the pre-school years of age (5 – 6 years), 88% were reported to be attending some form of educational facility and 77 % of the younger children (3 – 4 years) were attending an educational facility or some form of ECD intervention in 2010. Basic education is compulsory from grades 1 – 9 (7 – 15 years). In 2010, 97% of children in this age range were enrolled in some form of educational facility. Statistics only recorded enrolment but did not monitor attendance or progress through school (Children's Institute, 2012).

Caregiver Characteristics

Development indicators collected in the Office of the President showed that 74% of women with small children had at least completed primary school (Republic of South Africa, 2009). Maternal depression was shown to be significant in mothers living in poverty.

A reported 19.7% of pregnant women between the ages of 15 and 49 years are HIV positive. Most children get infected with HIV either prior to or during the birth process, and because of breastfeeding at later stages (Atmore et al., 2012). In 2010, it was estimated that 438 000 children under the age of 15 were living with HIV/AIDS with the highest prevalence in the KwaZulu-Natal province with a rate of 4.1% and Western Cape with the lowest rate of 1.2% (Atmore et al., 2012).

Services and Support

Statistics South Africa (2007) reported that there were 13 736 sites registered for early childhood stimulation, enrolling 646 491 children. There were 411 203 children being subsidised. Centre-based services are the prevalent form of care and they serve approximately 20% of children under the age of five years old (Biersteker, 2010). Richter et al. (2012) estimate that only 20% of children between the ages of 0 – 4 years old who reside in the poorest 40% of households have access to out-of-home child care and programmes. Although it is a statutory requirement, a number of child care centres are not registered and as a result, poverty-targeted subsidies only reach approximately 13% of the population of poor children (Biersteker, 2010). Home- and community-based programmes are reported to be on the increase; however, the exact figure of how many there are, is unknown (Biersteker, 2010). In the 2006/07 financial year, the Department of Social Development spent R350 million providing 5 531 registered early childhood development care and education sites with subsidies for 314 912 children between the ages of zero and four years of age (Department of Basic Education, Department of Social Development, & UNICEF, 2010).

Albeit an increase in spending to improve access and enhance quality, inadequate resources to facilitate implementation of services present obstacles for early childhood development care and education centres (Atmore et al., 2012). There is a lack of qualified teachers, inadequate learning materials and funding, poor toilet amenities and security for children at the centres (Department of Basic Education, Department of Social Development, & UNICEF, 2010).

The biggest gap in early childhood development care and education service provision in South Africa is the restriction of services to underserved areas. There is

inadequate government support to ensure that children from families who cannot afford fees can still access services, whether it is in traditional centre-based, community- or home-based centres (Richter et al., 2012). Inequalities between children more fortunate and those who are disadvantaged continue to increase under such circumstances. Approximately one third of poor South African children begin school with health problems such as stunting (Richter et al., 2012) which hinders their learning abilities.

South Africa has high levels of poverty and inequality. Children tend to be affected more severely by poverty than adults; children experience poverty in a different way to adults and the consequences are more severe (PAN Children, 2102). Statistics from the 2010 South African Household Survey data revealed that 75% of children lived below the upper bound line (below R1 016 per person) of poverty, 60% lived below the lower-bound line (below R552 per person) and 35% lived in extreme poverty (Hall, 2010). Poverty is, however, not experienced equally among children in South Africa. Families of children who were historically marginalised continue to experience high levels of unemployment, difficulty in accessing services and belong to predominantly women-headed households or households with only a mother or a carer who is not a parent (Hall & Wright, 2011). Predominantly rural provinces in South Africa such as Limpopo and Eastern Cape have the highest number of poor children (over 70%), with urbanised provinces such as Gauteng and Western Cape having a lower number (38% and 32% respectively) (Chennells & Hall, 2011).

In South Africa lack of household income is one of the key measures of child poverty (PAN, 2012). Approximately 7million children in 2010 were living in a household with non-employed adults (Hall & Chennells, 2011). As discussed in Chapter 2, low SES families are characterised by limited education, food insecurity and harsh parenting styles (Bradley & Corwyn, 2002; Engle & Black, 2008). However, this interaction is applied with caution as the studies that were reviewed by these authors were based on rigorous studies in the global north. General lower levels of education decrease the likelihood of seeking needed health care because of a lack of understanding of the symptoms and a lack of resources to access the services (Bradley & Corwyn, 2002; Bradley & Kelleher, 1992). Low SES children tend to live in dilapidated and crowded housing that poses increased risk for injury and illness (Bradley & Corwyn,

2002; Guo & Harris, 2000). Their environments also tend to be characterised by environmental hazards and violence (Bradley & Whiteside-Mansell, 1997).

Early Childhood Development Centres in South Africa

As part of the fulfillment of children's rights in South Africa, there is a responsibility on the government and collaborating bodies to ensure access to proper and adequate care for young children. In this thesis, emphasis will be directed towards early childhood development care and education services in the Western Cape Province of South Africa, where research and analysis will be conducted. Although the same national framework governs all provinces, the Western Cape Provincial government stipulates its strategic goal as ensuring that all young children have access to sustainable services that will enhance their physical, cognitive, emotional and social development (City of Cape Town, 2013). Of importance is the objective of increasing the number of children who have access to registered early childhood development care and education centres. Registration of these centres means that they meet the required conditions on health, safety and developmental needs of a child.

An early childhood development care and education centre in South Africa is defined as any building or premise used to admit, care for and protect more than six children who are away from their parents (Department of Social Development, 2006). These centres can be for profit or non-profit and admit children from infancy to the age of five.

The Child Care Act of 1983 states as mandatory that any place of child care has to be registered. No child may be kept in a place of care that is not registered, with the exception that the place is controlled and maintained by the state (Department of Social Development, 2006). The Department of Social Development stipulates minimum standards that are required for registration of child care centres. These guidelines encompass standards on the premises and equipment, health, safety and nutrition, management, active learning activities, practitioners and the relationships with families.

Premises and Equipment

Buildings where children are cared for must be clean and safe. All precautions within reason must be taken to ensure that both children and caregivers are not at risk of fire, accidents and any other hazards (Department of Social Development, 2006). Children have to be protected from any factors that can result in physical, social and emotional harm, when being cared for on these sites. There should be enough space for each child to move around freely. Guidelines state that there should be at least 1,5m^2 of indoor space and 2m^2 of outdoor space per child. All sites should have enough resources and equipment that are developmentally appropriate for the children. All premises should also be disability friendly (Department of Social Development, 2006).

Health, Safety and Nutrition

At least one meal per day that meets the nutritional requirements of children should be provided, either by parents or by the centre. Other snacks should be provided depending on the length of care provided by each site. The medical and immunisation programme history of each child must be recorded and kept confidential. In the event a child falls ill, the child must be cared for in a responsible way. Policies and procedures that cover health care, cleanliness, hygiene and safety should be present at every site (Department of Social Development, 2006).

Management

Administrative procedures and systems have to be in place to ensure the effective management and facilitation of activities in child care centres (Department of Social Development, 2006). The privacy of all families and children must be respected and protected. Families have to be made aware of the information governing a centre before their children are admitted for care. All records pertaining to a child must be kept current. These include details about the child's background and contacts, attendance registers, daily menus and details about transportation (Department of Social Development, 2006).

Active Learning Activities

Developmentally appropriate activities that will encourage children to develop to their full potential should be utilised. Activities have to be carefully planned and organised. Caregivers implementing these activities should have an understanding of how children develop in order to facilitate these activities effectively. Children must not be physically punished. They must be respected and nurtured. Caregivers should seek to encourage the development of a child's individuality, dignity, culture and spirit (Department of Social Development, 2006).

Practitioners

Practitioners are adult caregivers in charge of attending to a child's needs during their attendance in a centre. Guidelines state that they must be trained and receive continuous training in early childhood development care and education programmes. All practitioners should have the minimum qualification of a Basic Certificate in Early Childhood Development. This is listed as a National Qualification Framework (NQF) level 1 qualification. Practitioners must be physically and mentally healthy and capable of meeting all the demands of each child in the centre. Appropriate qualities that a practitioner should exhibit in order to care for children include being patient and respecting the gender, race, religion and language of each child in the centre. All efforts must be made to deal with staff grievances and minimise turnover (Department of Social Development, 2006).

Working with Families

Parents are the primary caregivers of children and should be involved as much as is possible in the functioning of a centre where their child is admitted. A good relationship between the families and the centre should be developed and supported. Families and children must be free to express any dissatisfaction with services provided to them. Differences may exist between the way families and practitioners rear children. In the event of these differences, they should be discussed respectfully and families should be able to talk freely about concerns pertaining to their child (Department of Social Development, 2006).

These guidelines state the conditions that must be present in order for a site to be registered as an early childhood development care and education centre with the provincial Department of Social Development. Sites that meet most but not all the requirements qualify for conditional registration that makes them eligible to receive subsidies. These subsidies assist them in reaching the minimum standards required. early childhood development care and education centres are subject to an inspection by the Department of Social Development at least once a year (Department of Social Development, 2006).

As early childhood development care and education centres are required to register and adhere to the strict norms listed above, some poor communities find it difficult to meet these conditions. Approximately 20% of young children in the country have access to services that meet the criteria of registration in terms of the Child Care Act (Save the Children, 2013). As a result, there is a general lack of traditional childhood development centres. In the Western Cape Province, there are 2928 known sites. Approximately 1518 (51.8%) of these are registered with the Department of Social Development as an early childhood services provider (Department of Social Development, 2009). An audit of childhood development centres in the Western Cape revealed that a large number of unregistered sites are located in houses, garages and backyard structures (City of Cape Town, 2013). These alternatives release parents to seek employment, especially parents from low SES families (City of Cape Town, 2013). It is an easy option that provides assurance to desperate working parents who need the income, that children are receiving supervised care (City of Cape Town, 2013). Furthermore, alternative child care services in low economic communities provide employment opportunities for women within the community (City of Cape Town, 2013; Save the Children, 2013). Alternative child care services refer to services that not school or centre-based.

Preparation for Formal Schooling in South Africa

A number of studies have been conducted in low and middle-income countries to assess preparation for formal schooling. In Guatemala, enrolment into secondary school was predicted by pre-school cognitive ability (Stith, Gorman, & Choudhury, 2003). In South Africa, achievement and cognitive ability assessed at the end of grade one positively correlated with later school progress (Liddell & Rae, 2001). The

same results were obtained from studies in Philippines (Daniels & Adair, 2004; Mendez & Adair, 1999), Jamaica (Walker, Chang, Powell, & Grantham-McGregor, 2005) and in Brazil (Victoria, Victoria, & Barros, 1990).

Poor performance of South African students has resulted in concerns of how to improve the quality of learning in the country (van der Berg & Louw, 2006). Investments are increasingly being made in South Africa to improve education outcomes. Evidence from global studies provides logic for cognitive development to be cultivated from an early age as a means to address this problem.

In South Africa, pre-school as part of early childhood education is divided into two systems; one that is funded and regulated by government and the other that is run by communities and private entities (UNESCO, 2006). Both systems consist of two components, pre-Grade R and Grade R programmes. Pre-grade R programmes are specifically for children between the ages of 0 - 4 years old and Grade R programmes are specifically for children aged 5 years (Department of Education, 2011). Grade R (year 0 or reception year) in South Africa is for children of four years of age who will turn five before June 30th of the year the child is enrolled. Pre-Grade R programmes are commonly either community-based or run privately for profit (Clasquin-Johnson, 2007). There are no national guidelines for children in the pre-Grade R stage of development in South Africa. The organisation of pre-reception, pre-school and community-based Grade R is ad hoc with centres following individual models of pre-school education (Clasquin-Johnson, 2007). Grade R, which is referred to as the reception year in which children are prepared for formal schooling, has a more defined and formalised learning curriculum. It forms the first year of the foundation phase of schooling in South Africa (Feza, 2012). Grade R, whether public or independent, follows the national curriculum. The Revised National Curriculum Statement by the Department of Education stipulates schooling policy from Grade R to grade 12. It stipulates that importantly, children need to be taught in at least the areas of mathematics, language and life skills. Life skills are behaviours that are taught to encourage the development of independent and effective strategies in responding to life's challenges (Department of Education, 2004). The consensus is that early childhood development care and education programmes need to be developmentally appropriate and foster physical, moral, social, emotional and intellectual development. Play as a medium should be used to achieve these

objectives (Department of Education, 2001). The way in which this is translated into the daily programming by different pre-school centres varies greatly (Clasquin-Johnson, 2007). According to the Education, Training and Development Practices Sector Education and Training Authority (ETDP SETA), ECD is among the most neglected and marginalised subsectors within education in South Africa (Clasquin-Johnson, 2007). This is in spite of Grade R being the priority element in early childhood development care and education policy for the South African government since 2001 (Department of Education, 2001).

Guidelines for early childhood development care and education teachers are set out in a document by the Department of Social Development entitled Guidelines for Early Childhood Development Services (2006). In South Africa, the South African Qualification Authority (SAQA) regulates all qualifications, which are established on the National Qualifications Framework (NQF). Further Education and Training colleges and early childhood development care and education non-profit organisations provide training for practitioners in the field (Atmore et al., 2012). The entry-level qualification for practitioners is the Further Education and Training Certificate: ECD (level 4). This qualification equips practitioners with skills to facilitate holistic development of children in different types of settings.

As part of the effort to redress historic discrepancies, it was proposed in the White Paper on Education (1995) that Grade R be part of the compulsory initial 10 years of education. After piloting this proposed model, Grade R has since been largely rolled out in public schools (Feza, 2012). The intended goal of the entire population of five year olds being enrolled in Grade R by 2010 was however not achieved and was extended to the year 2014 (Department of Education, 2011). This again was not achieved. Although there is an acknowledgement that Grade R is vital for preparing children for formal schooling, there is a lack of clarity as to how it fits in to the education system (Feza, 2012). A study by the South African Institute for Distance Education (SAIDE) on the status of Grade R found that practically, its role in the education system is undefined. It is unclear whether it indeed forms part of the foundation phase, or whether it is a simply a bridging class between formal and informal education that serves the purpose of increasing literacy levels (SAIDE, 2011).

Enrolments in Grade R have increased steadily since 2001 (Feza, 2012). There remains a challenge for an emphasis on an overall approach of the cognitive role as mediated by Grade R. Clarity is needed in order to avoid negative experiences that have been reported by early childhood practitioners (Feza, 2012). Grade R, has in some instances, been placed under the leadership of heads who do not have an understanding of the cognitive development of children due to improper regulation (Biersteker, 2010). This results in inappropriate strategies to fulfilling the desired objectives of Grade R.

Public schools incorporate only Grade R as a component of early childhood development care and education whereas community-based facilities incorporate both pre-Grade R and Grade R. Community facilities are further delineated by their physical space where care can be home-based with a practitioner using their dwelling house to accommodate children, or it can be centre-based where the community has a dedicated care building (Atmore et al., 2012). These are the traditional forms of child care provision. Family outreach programmes and informal playgroups that are alternative child care forms are on the increase because of the challenges that some caregivers have in accessing the traditional forms of early childhood services (Atmore et al., 2012). Non-profit organisations or some government departments provide for these. In a family outreach programme, a worker commonly referred to as a family or community motivator visits each participating family for a set amount of time per week or month, depending on the nature of the programme. The family motivator works with the caregiver of the home, imparting knowledge about health and safety, nutrition and learning stimulation. Demonstrations with the child are also part of the programme (Atmore et al., 2012).

Informal playgroups typically take place on a session basis in a local park or community hall. A fieldworker works with a group of parents and children teaching them educational activities they can use in their homes. This type of setting allows for information sharing among parents and provides a support network for both parents and children (Atmore et al., 2012).

The Department of Social Development launched an audit of all early childhood development care and education sites across the country to gather information on the nature of its provision, services and infrastructure (Department of Social

Development, 2013). An estimated number of 18 000 sites will be audited. This is a positive step towards gathering knowledge that will be useful in improving service delivery in the sector. Information is however still necessary on the nature of the outcomes of these different centres.

In reality, there is a gap between what the model programme for early learning interventions is and what actually takes place (Currie, 2011). The ideal is for centres to provide both care and education for children. Biersteker (2010) cautions that early education interventions are only part of the solution to the poor cognitive outcomes in South Africa. A study tracking literacy levels from Grade R to Grade 3 revealed that language and cognitive delays remained throughout despite attempts to correct the delays (Klop, 2005). Biersteker suggests that this provides evidence that education does not make a significant enough difference to problems that are entrenched beyond that. Schooling outcomes depend on the participation of developmental interventions from birth to reduce developmental disabilities that hinder optimal participation and performance for children when they begin the foundation phase of schooling (Biersteker, 2010).

The Education White Paper 5 stipulates that provincial education departments are financially responsible for Grade R provision in the short term in the form of subsidies (Atmore et al., 2012). Funding of Grade R will be regulated via the Norms and Standards of Grade R funding in the long term, where the intention is that 75% of funding emanate from subsidies (Atmore et al., 2012). Parents from poorer households bear the financial burden for early childhood development care and education services Department of Education, 2001) rendering the subsidies a necessity.

Out of a total of 50 026 recorded pre-Grade R learners in 2011, there were 18 477 (37%) learners in independent facilities and 31 549 (63%) learners in public facilities. Out of a total of 734 654 recorded Grade R learners, 29 600 (0.04%) were in independent facilities and 705 054 (96%) were in public facilities. Recent statistics on the distribution of the different types of ECD learning provision is not available, however in 2001 49% of sites where community-based, 34% were home based and 17% were school-based. These centres typically provide care for children up to 5

years of age. It is easier to monitor school-based facilities than it is to monitor home-based ones (Biersteker, 2010).

As the lack of infrastructure remains a challenge for the delivery of early childhood development care and education services, the implementation of and enrolment in Grade R is also affected. Problems of shortages of ECD centres, long distances for some families where centres are available and fees that are charged at some community-based sites are contributing factors (Feza, 2012). The existence of Grade R in itself is not adequate, the quality of the service provided is important, as there are only slight to no benefits that can be gained from poor-quality services (Sylva, Melhuish, Sammons, Siraj-Blatchford, & Taggart, 2011). There is still an imbalance in the access of quality Grade R where a skew towards privileged children is evident. Furthermore, the weakness in data capturing in South Africa makes it difficult to assess the quality and effects of current Grade R services (Biersteker & Dawes, 2008).

A number of alternative structures are widespread in the Western Cape and other parts of South Africa. These are characterised by a lack of resources, overcrowding and do not adhere to health and safety standards (City of Cape Town, 2013) thereby not meeting the required conditions for registration. As these services are not registered, access to funding cannot be granted (City of Cape Town, 2013). The majority of educators in these sites are not properly trained (City of Cape Town, 2013). Unregistered centres are unsustainable because they are poorly managed. In an audit of all centres in the Western Cape, approximately 350 centres closed down within a period of a year (Department of Social Development, 2009). High turnover means children are placed with a different caregiver with frequency (Save the Children, 2013). The dilemma is that although these services do not meet the required standards, they also provide a much-needed service in these communities (Save the Children, 2013).

In the formal school system in South Africa, all children are taught and graded on the same national curriculum, regardless of their background and type of school they attend. A child who begins formal school unprepared will endure difficulty throughout their school career, especially if it is not a good-quality school. Children need to

develop specific competencies before they begin formal schooling. These increase the chances of success in educational settings.

In response to the deficit of sufficient and quality services for children from poor communities, a number of non-profit organisations have initiated the implementation of home and community-based programmes (Naeser, Rangasami, Stewart, & Williams, 2012). These programmes include interventions such as toy libraries early childhood development care and education enrichment centres, playgroups, after school clubs, parenting programmes and family literacy programmes (Naeser et al., 2012). Children from disadvantaged backgrounds need these interventions to ensure proper development. These programmes deviate from the norm of traditional centre - based early childhood development care and education services. They go into the communities and homes of children that need and cannot easily access services to ensure proper development. These alternative programmes are an attempt to contribute towards child development in preparation for formal schooling. They seek to ensure that a child has developed the needed competencies to begin formal schooling.

Community-based organisations have different structures that share commonalities in being able to reach vulnerable groups through ideal location in the affected communities. This enables needed provisions to be accessible for these communities (Yakubovich et al.,2016). Provisions include parenting and early childhood education, social support and provision for health care (Ritchter et al., 2009). Community-based organisations typically offer family-based services where the benefit to caregivers leads to direct benefits to children (Yakubovich et al., 2016). There is a growing body of evidence that community-based organisations play a role in addressing the needs of individuals in poorly resourced settings, but there is a lack of systemic evidence regarding the benefits of these interventions for children (Sherr & Zoll, 2011; Sherr et al., 2016). Programmes implemented in vulnerable communities are characterised by limited research capacity and are not set up in a systematic way that enables evaluation (Yakubovich et al., 2016). This often leads to logistical difficulties in conducting research which result in high costs (King, De Silva, Stein & Patel, 2009). This was evident in reviews of community-based organisations that found limited evidence of associated outcomes after excluding a number of evaluations due a lack of scientific rigour (Irwin, Adams, & Winter 2009; Schnenk,

2009; Yakubovich et al., 2016). A longitudinal study to assess the effectiveness of community-based organisations to improve psychosocial well-being of children in South Africa found reduced incidents of violence and abuse towards children (Sherr et al., 2016). Exposure to community-based organisations was also associated with improved mental health and behaviour, such as fewer symptoms of depression, suicide ideation and problems with peer (Sherr et al., 2016).

Low-income settings are characterised by parenting difficulties that are associated with poor infant psychological functioning such as insecure attachments and poor cognitive functioning. Consequently, interventions aimed at improved functioning in these settings need to be affordable and utilise readily available resources (Murray, Cooper, Arteche, Stein & Tomlinson, 2015). There is an assumed link between strong community provision and comprehensive community needs resulting in an improvement in psychological adaption among participating community members (Yakubovich et al., 2016).

Yakubovich et al. (2009) investigated whether community-based organisations were reaching the most vulnerable children, whether the children experienced better psychosocial well-being than those not being reached, and whether outcomes were mediated by family-level outcomes. Data from two large studies; the Child Community Care Study which exclusively recruited children attending community-based organisations and the Young Carer study which was used to generate a comparison of children who had not attended any community-based organisations, were analysed. Results showed that community-based organisations were reaching the most vulnerable children, particularly children from households with high unemployment and overcrowding, children who were orphaned and children exposed to violence in their communities. There was evidence that children who attended community-based interventions had better psychosocial outcomes, received more positive parenting, experienced less family violence and conflict and displayed fewer symptoms of depression (Yakubovich et al., 2016). These findings showed that participation in these community-based interventions not only improved the psychosocial well-being of children, but also the home environment (Yakubovich et al., 2016).

Although the South African government has a long term objective of ensuring that all children have access to quality services, the attainment of this goal is currently not a financially viable option (Naeser et al., 2012). It can be argued that these alternative services are a better option than no services. However, there is a need to investigate the activities of these programmes and the outcomes that result for these children. As alternative child care structures are common and widespread in nature and a means to a solution for families in need, a more systematic understanding into their nature would prove useful.

In consolidating all the literature that has been presented thus far in this thesis, the previous chapter highlighted how family background, home environment, child characteristics and the quality of a pre-school intervention influence a child's developmental outcomes. These variables affect disadvantaged children and children from more privileged backgrounds differently. Disadvantaged children encounter more developmental risks. This group of children therefore benefits more from quality early childhood development care and education services compared to children from families that are more privileged. If not mediated, the former group of children would not be prepared adequately for formal schooling as with their peers. Access to quality services is however difficult for disadvantaged children. Chapter 2 highlighted the ideal outcomes from pre-school interventions that ensure children are ready to begin formal schooling. The ideal is that all children, regardless of their background, possess these competencies in time before they begin formal schooling. Healthy children from stable family and home backgrounds generally have easier access to better-quality early child care services leading to better developmental outcomes. The challenge is for children from poor backgrounds who start from a point of disadvantage and yet have limited to no access to quality services. Their families then rely on alternative interventions of varying quality. Chapter 3 discussed a prevailing problem in South Africa that has necessitated the implementation of alternative interventions outside of school or centre-based options in order to increase reach to high-risk children. Chapter 4 will introduce a specific intervention that will be evaluated.

Conclusion

The benefits of well-coordinated childhood development services have been outlined and the context of South Africa introduced. Although South Africa has policies and initiatives in place towards positive child development for all children, there is a lag in the attainment of the set objectives. Progress has been made, especially since the end of apartheid, however more still needs to be done. Early childhood learning programmes are implemented to benefit every child; however, past research shows that returns are highest for disadvantaged children. Poverty is associated with poor child characteristics, unstable home environment and family backgrounds. The poorest communities are the least likely to have access to early childhood learning services, increasing the developmental gap for these children compared to children from more advantaged families. There is a concern about the poor performance of learners in South Africa, and the inadequate provision of pre-schooling is a possible contributing factor. Children need to have a solid education foundation to be able to cope in their education careers in their life course.

Alternative early childhood development care and education services alleviate service access issues. The quality of these programmes varies, as they do not conform precisely to the standards stipulated for early childhood development care and education services. Presently, very few studies have been conducted within the context of South Africa to investigate the outcomes of different types of pre-school interventions. The important question is whether these programmes are adequate in preparing children to begin formal schooling so that they do not experience difficulty in their schooling careers. Knowledge on the outcomes that are associated with alternative child care services is needed. This would provide a better understanding on the status of development of the participating children, and on what is good enough given scarcity of resources. Data to assist the effective allocation of resources, in order to reap the full benefits of well-coordinated services are necessary to lessen the developmental gap of children in South Africa compared to their peers in high-income countries. Such studies would provide clarity on where resources need to be channelled to improve the overall status of early education in South Africa.

CHAPTER 4

Evaluating an Alternative Child Care and Education Intervention

In order to examine the relationships presented in Chapter 3, a theory-driven programme evaluation approach was followed. Programme evaluation is the use of social science research methods to gather information to judge the effectiveness of a specific programme (Rossi, Lipsey, & Freeman, 2004). Programme theory-driven evaluation utilises an explicit theory of how a programme's activities will cause its intended outcomes (Rogers, Petrosino, Huebner, & Hacsi, 2000). Sources of the programme theory include prior research, a detailed description of the programme activities, implicit change theories of those close to the programme, stakeholders' assumptions, observations of an operating programme or exploratory research (Donaldson, 2007). Programme theory-driven evaluation was applied utilising two components, conceptual and empirical (Rogers et al., 2000). These were applied to a specific alternative child care and education intervention as presented below.

Family in Focus Programme Description

The Family in Focus (FiF) programme is a home-based early education programme that was designed and is implemented by the Foundation for Community Work (FCW). The FCW is a resource and development ECD organisation that promotes the holistic development of a child within the context of their families and communities (FCW, 2013). The FiF programme is targeted at young children between the ages of 0-6 years who live in poor and marginalised communities where access and resources for care and stimulation are limited (FCW, 2013). The FiF focuses on the needs of pre-school age children in impoverished areas that have high unemployment, crime and violence. The programme aims to equip primary caregivers, particularly women, to be responsible for positive development of their children. The programme also provides a support system for primary caregivers and information on accessing resources. A team of cost-effective ECD workers who act as a support network for primary caregivers is made available through the programme.

The FiF programme currently operates in the Western Cape in eight district municipalities. These districts are Cape Metro South, Central and North, Central, Karoo, Eden, Overberg, Cape Winelands. These are a mixture of rural and urban communities. The FiF programme works in partnership with the communities involved in the programme. Each community has a committee that consists of key stakeholders. The FCW signs a memorandum of understanding (MoU) with a participating community. The FCW funds implementation of the FiF programme in participating communities. The FCW mentors committee members in implementing the FiF programme. The overall objective is to build individual capacity in the communities to a point where the FCW can withdraw financial support and resources, leaving the committees responsible for the project on their own.

People are identified to become home visitors in the programme, in consultation with the committee. To be selected as a home visitor, an individual needs to have at least completed Grade 9, display an interest in their local communities, and exhibit a passion for early childhood development care and education (in the form of involvement in past ECD related initiatives). The amount of funding available determines how many home visitors can be sustained in the different communities that are supported by the FCW. Home visitors receive a stipend for their services. The FiF programme consists of three components in which the home visitors are trained: Home Visits, Parenting Workshops and an ECD Toy Library. The training and content of these three components are described in detail below.

Home Visiting Component

The main role of a home visitor is to help caregivers understand that they have to create an environment that is conducive for childhood development in the home. Home visitors are provided with two types of training to enable them to achieve this objective: Module Training and Guides Training. Module Training exposes a home visitor to theories surrounding early childhood development care and education and governing policies, and Guides training exposes a home visitor to expected practice in the field. Below is a detailed outline of the content of both types of training.

Module training.

Module Training is recognised by the Education, Training and Development Practices Sector Education and Training Authority (ETDP SETA). FiF Module Training consists of six modules. A module is completed per week. Home visitors are trained using block learning, where training takes place once a week per month over a period of six months. However, in some instances, module training is more spaced and will not be delivered in a continuous six-month period. All modules are based on SAQA unit standards. The FiF Module Training component is skill-based as opposed to qualification-based. Learners are awarded with 37 credits at the end of training. Upon completion, learners are awarded with a certificate of competence. Table 1 displays a more detailed description of the content of the module training sessions.

Table 1

Content of the FiF Module Training

Training session title	**Aims/Content of session**
Community development and indigenous learning	Learners gain an understanding of features of community development and indigenous and traditional practices surrounding child development.
Adult learning	Learners gain an understanding of features, principles and theories surrounding adult learning. Learners also gain an understanding of different teaching methods that lead to incidental and non-conventional learning.
Understanding the broader ECD field	Learners are exposed to terms and concepts that govern ECD.
Theories of ECD	Learners are introduced to four key ECD theorists, namely, Jean Piaget, Lev Vigotsky, Erik Erikson and Mary Ainsworth.
Domains and stages in ECD	Learners are introduced to the different stages of child development according to the different developmental domains.
Learning environments	Learners are introduced to various environments that influence child development, including issues of the health and safety of a child.
Daily and weekly programmes	Learners gain an understanding of the components and purposes of daily and weekly programs in traditional pre-schools.
Health legislation and policy	Learners gain an understanding of general health and hygiene policies and the importance of the road to health card for a child.
Stopping the spread of disease	Learners gain an understanding of commonly reported child infections and diseases and the preventative measures on the spread of these diseases.
Injuries and emergencies	Learners gain an understanding of appropriate responses to injuries and emergencies concerning a child.
Nutritional needs of children	Learners gain an understanding of sound eating habits that contribute to the positive health of a child.
Routines and transitions	Learners gain an understanding of sets of flexible routines and transitions that can enable a child to transit from one developmental dimension to another.
Legislation and policy	Learners gain an understanding of legislation and policies that affect ECD facilities and people working with the facilities.
The rights of children	Learners gain an understanding of the convention on the rights of child, the importance of child safety and current projects and programmes designed to protect the rights of a child.
Emergency plans, procedures and equipment	Learners gain an understanding of a first aid kit and how to use it. Learners are also provided with a contact list of emergency services.
Environmental hazards and safety	Learners gain an understanding of why it is important to keep the environment clean and how high risk environments cause health and safety hazards that need strategies for correction.
Proper reporting and recording	Learners gain an understanding of policy guidelines that are required for developing a proper set of administration records as well as guidelines for recording injuries.

Although I was informed that FiF Module Training consists of six modules in preliminary interviews, only four modules were presented as the current model for Module Training. The content of the sessions outlined above was derived from the four modules that were presented. According to FiF Module training documents, it is intended that the modules be based on the four Unit Standards outlined in Table 2 below. The Unit Standard titled 'Provide information about HIV and AIDS in treatment options in community care and support situations' is not represented in the modules outlined as I did not find content relating specifically to HIV/AIDS.

Table 2

Unit Standards for FiF Module Training Content

Unit Standard ID	**Name of Unit Standard**	**Level**	**No. of Credits**
264975	Facilitate learning in a community context	4	8
244462	Work with families and communities to support ECD	3	5
244480	Facilitate healthy development in ECD programmes	4	16
260597	Provide information about HIV and AIDS in treatment options in community care and support situations	3	8

A learner's competence is assessed through a Portfolio of Evidence (POE). A POE is a record of a learner's achievements throughout training. Formative assessments are conducted in the form of homework assignments that a home visitor has to complete. A summative assessment is conducted where a home visitor's conduct is observed during a home visit by training and support staff. A home visitor can be deemed competent if they meet the required standard. If the required standard of competency is not achieved further training and guidance is given until a home visitor is deemed competent.

Guides training.

Guides Training is delivered over a period of three days before a home visitor begins home visits. A home visitor can begin home visits after receiving Guides Training even if they have not received Module Training. Guides Training is based on three guide books compiled by the FCW titled the Home Visitor's Guide, Parenting Programme Guide and ECD Toy Workshop Guide.

The Home Visitor's Guide is used to train a home visitor in activities to conduct during home visits, and is reference guide for a home visitor thereafter. The Home Visitor's Guide was designed as a guide on a range of developmental activities that a home visitor can demonstrate to a primary caregiver during a home visit. The guide is based on the following areas of development: literacy, numeracy and life orientation. With literacy, the aim is for primary caregivers to teach basic writing, listening, speaking, reading, thinking and reasoning and language structure and use in their mother tongue. With numeracy, the aim is for primary caregivers to be able to teach basic space and shape geometry, number operations and relationships, patterns and measurement. With life orientation, a child is taught social, physical and personal development and health promotion.

The three areas of learning are covered with all age groups. The desired outcome is that a child develops physically, socially, emotionally, and cognitively from the activities in the three areas. As a child's age increases, so does the complexity of the activities. The ages specified in the guide are categorised as 0 - 2, 3 - 4 and 5 - 6 years of age. A home visitor introduces an age appropriate activity during a visit that the caregiver has to conduct in the home visitor's absence. Upon the next visit, observations are made on the progress of a child on the activity until established objectives related to the activity have been achieved. Below is a more detailed description with examples of activities a home visitor is trained in and implements during a home visit according to the different age classifications.

Zero to two years.

Home visitors talk to caregivers about establishing bath, feeding and nap routines for a child. Routines are encouraged as a means to stabilise child development and help develop trust, love and awareness for the child. Home visitors encourage caregivers to have an interactive relationship with a child through responsive parenting. Below

is an example of activities that a home visitor can conduct with a primary caregiver during a home visit for a child between 0-2 years:

1. During bath time, caregivers are encouraged to talk, sing and gently rub the child. Caregivers are encouraged to provide safe toys such as plastic containers or sponges for a child to play with in the water.
2. When dressing a baby or toddler in this age group, home visitors take a caregiver through transition process of encouraging a child into a sitting position, or allowing a toddler to towel dry him/herself or brush his/her own hair.
3. Home visitors talk to caregivers about feeding, whether bottle feeding (preparing the bottle), or breast feeding which is the preferred option. Home visitors also discuss the transition to solids and allowing a child to feed him/herself in order to help develop fine-motor muscles.
4. Home visitors introduce play for toddlers in this age group by demonstrating the use of soft and multi-coloured items in the house. The aim is to encourage a child to explore and manipulate these items, with the caregiver also manipulating play opportunities such as rattling a toy object and encouraging the child to crawl towards it.
5. Caregivers are encouraged to include naptime as a routine. Caregivers are encouraged to sing lullabies, or use soothing repetitive sounds to calm a toddler. Caregivers are encouraged to use little stimulation during nap time.

Three to four years and five to six years.

Home-visitor training and activities for these two age groups are grouped into 20 themes under the three overarching developmental subjects (literacy, numeracy and life orientation). The 20 themes are not mutually exclusive in terms of the aims they are designed to achieve. Table 3 below displays the aims of each theme and examples of activities that a home visitor is trained on to conduct with a caregiver during a home visit. Examples are presented according to a specified theme and age group.

Table 3

Examples of Home Visitor Guide Activities According to Age Group

Theme	**Aim**	**Example of theme activity by age group**	
		3-4 years	**5-6 years**
My body	Caregivers help a child understand him/herself (including similarities and differences with others) and demonstrate the child's abilities in physical exercises.	Caregivers introduce parts of the human body through songs or rhymes while pointing at the body part.	Caregivers introduce the functions of human body parts.
Five senses	Caregivers are encouraged to help a child make links between senses and objects around him/her. Caregivers also help a child understand that choices have consequences.	Caregivers introduce body senses using statements and actions such as 'These are my eyes, I see with my eyes'.	Caregivers use more advanced games for a child to use their senses, e.g. identifying sounds such as a dog bark or a kettle boil.
My family	Caregivers help a child to express his/her feelings and emotions in order to respond to others. Caregivers also help a child understand diversity.	Caregivers make a child aware of the names and roles of different family members.	Caregivers partake in activities such as building a family tree with a child.
Keeping clean and fit	Caregivers help a child know routines. Caregivers also help a child develop healthy preferences for food and demonstrate awareness for health and safety.	Caregivers can sing songs with a child about cleanliness habits such as regularly washing hands.	Caregivers can talk to a child about what happens if they do not brush their teeth regularly.
Healthy foods	Caregivers help a child develop preferences for healthy food.	Caregivers can point out differences between fruits and vegetables to a child.	Caregivers can tell a child stories about healthy eating.
Friends	Caregivers help a child express him/herself in order to respond to another child and adults.	Caregivers can talk to a child about the different ways to make friends.	Caregivers can talk to a child about what it means to be a good friend.
This is what I wear	Caregivers help a child understand who they are and how to develop a sense of independence.	Caregivers can introduce differences between the clothes boys and girls wear.	Caregivers can page through a magazine with a child to identify different types of clothes.
Shapes and colours in my community	Caregivers help a child to begin to develop an understanding of numbers, symbols, size, shapes and space.	Caregivers can introduce a colour or shape to a child and ask him/her to identify an item with a similar colour or shape.	Caregivers help a child to learn how to draw the four basic shapes.
Opposites	Caregivers assist a child to be aware of and start to think critically about concepts related to opposites such as night and day.	Caregivers introduce the concept of opposites to a child such as big and small.	Caregivers can play games with a child such as pouring water into small and big cups.
Gardens and bugs	Caregivers assist a child to be aware of and start to think critically about concepts related to gardens and bugs.	Caregivers can introduce garden insects by drawing and labelling them for a child.	Caregivers can go to a local library and get books with stories about different insects.
Time and weather	Caregivers assist a child to be aware of and start to think critically about concepts related to time and weather.	Caregivers can introduce the concept of different weather conditions such as hot, cold and windy.	Caregivers can introduce the days of the week and time of day to a child.

Keeping safe	Caregivers assist a child to gain awareness of the concept of danger as well as items that cause danger.	Caregivers can make a child aware of dangers in and around the home such as playing with matches.	Caregivers can introduce games such as cutting dangerous and non-dangerous items and sorting through them with a child.
The sky	Caregivers assist a child to be aware of and start to think critically about concepts related to the sky.	Caregivers can introduce the sun and its functions to a child.	Caregivers can make up stories with a child about the earth and other planets.
People who help us	Caregivers create awareness in a child of the people in their community who are there to help the community at large.	Caregivers can sing rhymes with a child about people in the community in service professions such as doctors and policemen.	Caregivers can explain the role of the people in service professions and can visit these workplaces with a child.
Helping hands	Caregivers assist a child to be aware of and start to think critically about concepts related to helping using household duties.	Caregivers can allow a child to help with activities such as making sandwiches, while explaining the purpose of helping.	Caregivers can allow a child to be involved in more complex household chores such as sweeping and putting away toys.
New life	Caregivers assist a child to be aware of and start to think critically about concepts related to life cycles.	Caregivers introduce the concept of new life and how things grow.	Caregivers can introduce different types of animals and their offspring to a child.
This is where people live	Caregivers assist a child to be aware of and start to think critically about concepts related the habitation of people and different species.	Caregivers can introduce and make a child aware of the different types of places where people can live.	Caregivers can help a child to draw or make their own houses using boxes or paper.
My feelings	Caregivers help a child to express their own feelings and emotions in order to respond to others.	Caregivers can use a puppet made of an old sock, buttons, ribbon and glue as a medium to talk to a child about emotions.	Caregivers can role play an emotion and ask a child to identify the emotion.
My country	Caregivers assist a child to be aware of South Africa and its properties as a country.	Caregivers introduce South Africa as a country to a child and the different provinces within the country.	Caregivers can sing songs related to South Africa with a child.
On the move	Caregivers assist a child to be aware of and start to think critically about concepts related to modes of transport.	Caregivers can take a walk with a child and introduce different modes of transport that can be seen.	Caregivers can help a child make up a story about different modes of transport.

Parenting Programme Component

Home visitors are issued with a Parenting Programme Guide. The Parenting Programme Guide is designed to assist a home visitor to facilitate parent/caregiver support meetings. Caregivers are provided with a space in which they can learn and share ideas on stimulating a child with other caregivers during parent support meetings. The guide lists ways in which a home visitor can create a safe space for primary caregivers to share stories in a positive manner. The guide consists of a programme of activities for 11 parenting sessions. The sessions can be conducted over a period of one and a half to two hours with 15-25 participants. The parenting programme is not limited to caregivers who are enrolled in the FiF programme; other caregivers who live in the community and are not enrolled in the programme are encouraged to attend. Caregivers who complete the 11 session parenting programme receive a certificate of attendance as a means of affirming their commitment to the workshop and to the development of their child. Table 4 below displays the content and aims of the 11 sessions listed in the Parenting Programme Guide.

Table 4

Content of the Parenting Programme

No. of session	**Aims of session**
1. Understanding the importance of early childhood development.	- Help caregivers to understand that the parenting workshop is a response a need in the community to encourage positive responsive parenting. - Help caregivers understand that a lack of stimulation and love particularly during the first six years of a child's life will have a negative impact on the development of a child. - Arrange the logistics of the subsequent workshop sessions and home visits for the caregivers enrolled in the FiF programme.
2. Affirming caregivers and their role in their child's life.	- Share their feelings and experiences about being a parent/caregiver - Understand that they are the most important person in their child's life - Understand themselves better as an individual
3. Communicating with my child.	- Realise that good communication helps a child to develop positively - Learn basic communication skills - Practice some basic communication skills
4. Social and emotional development: Understanding my child's behaviour.	- Understand the concepts of social and emotional development of a child - Understand how a child can learn to be independent - Understand how a child can develop initiative and a conscience
5. Social and emotional development: Understanding my child's behaviour continued.	- Understand that there are reasons for a child's behaviour - The importance of a parent/caregiver's attention to a child - Understand that when a child is behaving badly, the child is often expressing a need that is not met.
6. Alternative discipline.	- Understand why a child misbehave - Understand the aim and purpose of discipline - Reflect on their own style of discipline - Consider alternative ways of discipline
7. Mental/Intellectual development.	- Understand what mental/intellectual development is. - Understand how a child learns. - Understand how to help a child to think for themselves through asking questions. - To practically engage in activities that stimulate a child's learning about the world around him or her.

8. Mental/intellectual development continued.	- Understand a parent/caregiver's role in helping a child to think for him/herself. - Understand activities that can be used to develop a child's thinking skills. - Understand that language development is assisted through storytelling. - Learn how to tell a story to a child that stimulates mental development.
9. Physical development.	- Understand about a child's large and small muscles and how to help them develop. - Appreciate the benefits of music and movement in the physical development of a child. - Discover ideas of what can be used in the home to create musical instruments for a car.
10. Early literacy and language.	- Understand how a child learns. - Understand how to help a child think for themselves.
11. Our future.	- Think about the future of their child. - Think about the role they play in the future of their child. - Understand the basics of action and reflection.

A detailed description of each session in the parenting workshops is displayed in Appendix B. Home visitors are expected to conduct two parenting workshops per month throughout the year. The 11 sessions presented above do not accommodate a parenting programme that continues throughout the year. In coordination with the Project Coordinator and suggestions from caregivers about identified themes in the community, a home visitor can initiate discussion around a selected topic to accommodate the remaining sessions for the year.

ECD Toy Workshop Component

The ECD Toy Workshop Guide is designed to assist home visitors on the use of educational toys that have been specifically designed to facilitate holistic child development. A home visitor demonstrates to a primary caregiver how to manipulate an educational toy for maximum child development. The aim of the workshop is to assist caregivers to understand the manner in which a child learns through play.

The aims of the toy library are:

1. To introduce caregivers and a child between the ages of 0-6 years to educational toys
2. To develop a child's cognitive skills
3. To develop a child's social skills through interactions with another child
4. To develop a child's physical skills
5. To develop language, listening and communication skills
6. To develop literacy and numeracy skills
7. To build the confidence of a child that allows him/her to develop a sense of achievement and independence.

Fun and educational activities are designed and implemented according to colour-coded boxes. Each box contains a specific range of toys, and children's engagement with these toys has been linked to varying developmental outcomes. There are a total of 10 colour-coded boxes, namely pink, black, green, navy blue, orange, purple, red, yellow, silver and blue.

The outcomes of interactions with the pink colour coded toys are:

1. To encourage holistic development for a child between the ages of 0-2 years

2. To encourage babies and toddlers to explore, learn and develop independence

Interactions with all other colour-coded toys have shared outcomes where children get a chance to develop:

1. Cognitive skills by matching and sorting toys by colour
2. Social skills through interactions with other children
3. Literacy skills through making meaning of letters and words, reading picture books
4. Fine motor skills through cutting, pasting, drawing and painting where required, finger puppets and threading in and out of holes for required toys
5. Numeracy skills through counting of toys
6. Hand-eye coordination by attempting to cut in a straight line with a pair of scissors.

These toys vary in type and according to the instructions on how the toys are to be used.

Programme Implementation

Home visitors are responsible for an average of 35 families. When a home visitor is recruited into the programme, they, in turn, need to recruit 35 families that they will work with, before they sign their contracts. The aim of this recruitment strategy is to find out whether the home visitors can identify those in need of intervention services in their own communities.

Although the programme is aimed at enhancing positive child development, primary caregivers are primary beneficiaries (in other words, benefitting first from the programme) and a child is a secondary beneficiary of the programme. Home visitors need to make contact with all the families they have recruited into the programme at least four times a month. Two of the four visits are directly to the home and the other two are in the form of parenting workshops.

Home visitors receive Guides Training before they begin home visits. Module Training is received at any point during the working contract of a home visitor.

Module Training is organised according to logistical arrangements of newly recruited home visitors who require training. Guides Training equips home visitors to be able to implement demonstrations of age appropriate activities in the home during home visits (as shown in the examples in Table 4). Guides Training also equips home visitors to conduct parenting workshops (using the content displayed in Appendix B). Primary caregivers are grouped and meet at a set venue such as one of the primary caregivers' homes to conduct a parenting support visit.

As the FiF model is based on the encouragement of child development using resources in the home, resources are not given to primary caregivers by the FCW. Mobile buses containing educational toys are sent to the communities in the form of road shows once a month. Each community is allocated 10 colour-coded boxes with educational toys (as described above under the ECD toy workshop). The toys are made available to home visitors for demonstration purposes to primary caregivers. Home visitors help primary caregivers to find suitable alternatives with similar outcomes in the home, as the home visitor leaves with the toys at the end of a visit.

Caregivers are also encouraged to make their own toys at home. The activities that home visitors conduct with primary caregivers in the home change as the age of a child changes. The older a child gets, the more intense the activities become. Home visitors tailor activities in each home, based on principles of development that they have been taught in training.

Time spent with families varies. Home visitors judge how much time to spend based on progress towards expected objectives. Homes are typically within walking distance in the communities of the home visitors. In farm areas, houses are further apart and there is no transport system for the home visitors. They have to walk distances of between 5 - 10kms. These home visitors have fewer families to work with. Home visitors in these farm areas are however encouraged to conduct more than the standard two home visits.

Project coordinators and team leaders monitor home visitors in the first month to see that they are capable of and able to conduct the work as home visitors. One team leader is appointed per 10 home visitors and one project coordinator is appointed per area. As part of a monitoring process, home visitors submit monthly reports of their visits. An attendance register of home visits and caregiver attendance to parenting

workshops is kept. These are submitted on a weekly basis. These tools monitor the families the home visitors have worked with, and the number and ages of a child. Project coordinators conduct scheduled visits twice a month to the different areas, to assess whether a home visitor understands what is expected of him/her. Random visits by project coordinators are also conducted to observe and provide support and constructive criticism. Project coordinators have meetings with home visitors to provide feedback on programme delivery in their designated areas.

As home visitors are not social workers and are not trained in specialty areas, referrals are made where necessary for services available in the community. Home visitors are trained to interact with and form a partnership with stakeholders in their communities such as clinics and social services that aid with parenting or a child's development.

From this presentation of the FiF programme components, it becomes clear that the sequence of the programme begins with the recruitment and training of home visitors. These elements constitute the programme inputs. Home visitors are expected to implement the content taught in training through the three activity components: home visits, parenting workshops and ECD toy libraries. In implementing these activities, it is expected caregivers will learn age appropriate stimulating activities for a child using resources in the home and be provided with positive parenting information and support. It is expected that a child will engage with and learn through the educational toys presented at toy libraries. Caregivers are expected to become more knowledgeable while being actively involved in and stimulating positive childhood development in the home. It is also expected that caregivers will implement the learned content and activities. These constitute the short-term outcomes of the FiF programme. In implementing the learned behaviours, it is expected that children will benefit through these targeted activities for the different developmental domains that will better prepare them for formal schooling. These constitute the long-term outcomes of the FiF programme.

However, as outlined in previous chapters, early childhood learning is moderated by a number of different factors. These factors that were discussed in length in Chapters 2 and 3 constitute moderating variables, which demonstrate the complexity of the programme. The quality of training that home visitors receive is important

because it influences their skills and knowledge to be able to deliver the programme. The quality of programme delivery by the home visitors is also important. The expectation is for home visitors to implement the programme according to their training and adhere to the expected frequency of contact with families in the programme in order to attain the desired outcomes.

Caregiver characteristics, child characteristics and the home environment moderate how the caregivers will implement what they have learnt in the programme and the rate at which a child progresses. For example, as highlighted in previous chapters, the level of literacy and health status of a primary caregiver influences their understanding and ability to conduct activities that promote age appropriate development for a child. A safe home environment would ensure that a child can engage and learn through play. Child health and nutrition influences physiological and psychological functioning of the child. Without good health and nutrition, a well-implemented programme may not result in the intended outcomes.

In order to guide the theory-driven evaluation, evaluation questions grouped into three parts were established. Programme theory evaluation questions were included to investigate the plausibility of the FiF programme theory in order to establish whether it is feasible for the programme activities to lead to the desired outcomes. Process evaluation questions were included to investigate three areas of programme operation, namely programme utilisation, delivery and resources. Lastly, programme outcome evaluation questions were included to assess whether the programme was associated with the positive achievement of the desired outcomes for the children. These are presented below.

Evaluation Questions

Programme Theory Evaluation Questions

1. Are the assumptions underlying the FiF programme plausible?

Programme Implementation Evaluation Questions for Home Visitors

2. Did the programme reach the intended home visitors?

3. Was the training for home visitors implemented as intended (content) and with the necessary intensity (dosage) and quality in terms of training materials (research based and developmentally appropriate, aligned with ECD standards) and instructor delivery (efficacious training)?

4. What level of participant responsiveness did the home visitors display during the training (attendance, engagement, indications of understanding)?

5. Were there sufficient resources to implement training for the home visitors with fidelity and quality?

6. Did the programme reach the intended caregivers?

7. Was the training for caregivers implemented as intended (content) and with the necessary intensity (dosage) and quality in terms of training materials (research-based and developmentally appropriate, aligned with ECD standards) and instructor delivery (efficacious training)?

8. What level of participant responsiveness did the caregivers display during the training (attendance, engagement, indications of understanding)?

9. Were the caregivers able to apply what they have learnt with the necessary intensity and quality (efficacious stimulation and parenting)?

10. Were there sufficient resources to implement the training for caregivers with fidelity and quality?

Programme Implementation Evaluation Questions for Children

11. Did the programme reach the intended children?

Programme Outcome Evaluation Questions for Children

12. Are the children in the programme better off in terms of age appropriate motor, cognitive, language, social and emotional development after the programme than before? In addition, are they equal in terms of development when compared to a group of children who are attending school-based Grade R?

Conclusion

The FiF programme has an ideal sequence in order for the five child developmental outcomes to be achieved for a child to be school-ready. Training of the home visitors and the delivery of the programme have to be of a high quality in order for the programme to have the necessary effect. Caregiver and child characteristics and the home environment are pre-existing conditions of the participants. It is however expected that a well-trained home visitor will identify unsatisfactory conditions that could result in poor development outcomes for a child and work with primary caregivers to find solutions to mitigate this risk. In order to examine the relationships presented in the programme description, a theory-driven programme evaluation approach will be followed. The method that was employed to achieve these objectives is discussed in the following chapter.

CHAPTER 5

Method

The relevant sections in this chapter were organised according to the evaluation questions in the previous chapter.

Evaluation Design

Evaluation questions 1-11 were investigated using a descriptive design. Descriptive studies involve collecting information without changing the environment or manipulating any elements within the study. Data were collected over a period of one year, specifically between February and November 2015. Evaluation question 12 was answered by means of a pre post non- equivalent group experimental design. This evaluation will be referred to as the small sample evaluation in the following chapters.

Table 5 displays the research design that was used to assess the outcomes (Evaluation question 12) in this small sample evaluation. Pre- and post-tests were conducted on the five developmental outcomes using an FiF intervention group and a comparison group of the same age that received that received a different intervention. These difference will be explained in a later section of this chapter.

Table 5

Research design used to investigate school readiness to learn outcomes of the FiF programme

	Pre-test	**Intervention**	**Post-test**
FiF Intervention Group	O^1	X	O^1
Grade R Intervention Comparison group	O^2	X	O^2

Setting and Participants

Mitchells Plain, which is one of South Africa's largest townships, is a participating community in the FiF programme. Mitchells Plain was used as the community of interest in this evaluation. The township was built in the 1970s by the apartheid government to provide housing for coloured people who were forcibly removed from their residences under the Group Areas Act. Mitchells Plain was built to provide accommodation to approximately 250 000 people; however, it is estimated that the current population is 400 000 (Department of Provincial and Local Government, 2006). Approximately 22% of the population live in informal houses. The most common language spoken by approximately 40% of the population is Afrikaans, followed by Xhosa and English, each spoken by approximately 30% of the population. Some households do not have access to infrastructure and services as 18% are without electricity and 11% are without waste removal services. With 43% of the working age population gainfully employed, the average monthly income of the households is slightly lower than the national average and 48% live below the poverty line (Department of Provincial and Local Government, 2016). A small population in Mitchells Plain has access to higher education and approximately 40% of people between the ages of 5 – 24 do not attend school. There are 53 early childhood centres, of which a substantial number are not registered and 43 primary schools. Located 20km from the City of Cape Town, Mitchells Plain is an isolated township with high travel costs for commuters. The township is situated far from centres of economic opportunity and faces challenges of overcrowding, HIV/AIDS, lack of access to public facilities and is renowned for gang activity and drug abuse, particularly among the youth (Department of Provincial and Local Government, 2006).

Mitchells Plain is divided into eight sub-sections, but the FiF programme operates in only four of these sub-sections. The four subsections are Tafelsig, Beacon Valley, Montrose Park and Heinz Park. Access from the Foundation for Community Work (FCW) was only granted to the Heinz Park area for this small sample evaluation, therefore only children from Heinz Park were included. The programme manager selected Heinz Park because it was perceived as the most organised subsection. With community-based organisations that rely on external funding from various

sources, fear of funding loss influences decisions that can affect how a programme is evaluated (Sherr et al., 2016). The main advantage of the selection of the Heinz Park area was participating residences were closer to one another than residences in other areas where the FiF operated. This was important for data collection purposes. Futhermore, an implementation evaluation was taking place in the other three areas of Mitchells Plain and the selection of Heinz Park thus guaranteed that data collection for this evaluation and the implementation evaluation would not overlap.

At the time of the evaluation, there were 21 home visitors in the FiF programme in all sub-sections of the Mitchells Plain area. Only six home visitors operated within the Heinz Park area. All 21 home visitors in the Mitchells Plain area were invited to participate only in the programme implementation evaluation. This means that I had access to all home visitors for the implementation evaluation, but only the children of six home visitors in Heinz Park for the programme outcomes evaluation.

Children who participate in the FiF programme can start the programme at any age up to Grade R age. Participating children therefore have varying lengths of time in the programme. However, it is expected that all children will exit the programme by Grade 1 age as they are required by law to go to school at that age. Children between the ages of 5 - 6 years (Grade R age) in the FiF programme in Heinz Park were the unit of analysis for developmental outcomes for school readiness. School readiness gradually develops over a period of six to seven years when children are provided with appropriate stimulation and opportunities for discovery through play (Davin & Van Staden, 2005; Janse van Rensburg, 2015). Grade R, also referred to as the Reception Year, has been a part of the Foundation phase in South Africa since 1998. At present, Grade R is not a compulsory year of schooling although a goal has been set to make Grade R attendance compulsory by 2019 (Department of Basic Education, 2016). School is compulsory from Grade 1 in the year that a learner turns 7 years by June 30. Grade R teachers do not formally teach the three foundation phase subjects; their main task is to expose learners to language, mathematics and life skills through play-based learning. The *National Curriculum and Assessment Policy Statement* (CAPS) stipulates specific objectives that should be achieved by the end of Grade R in order to assist a learner to be normatively,

physically, cognitively, affectively and linguistically ready to begin Grade 1 for a solid start to a child's school career (Janse van Rensburg, 2015).

Figure 1 shows the process that was followed to select the FiF children who participated in the small sample evaluation.

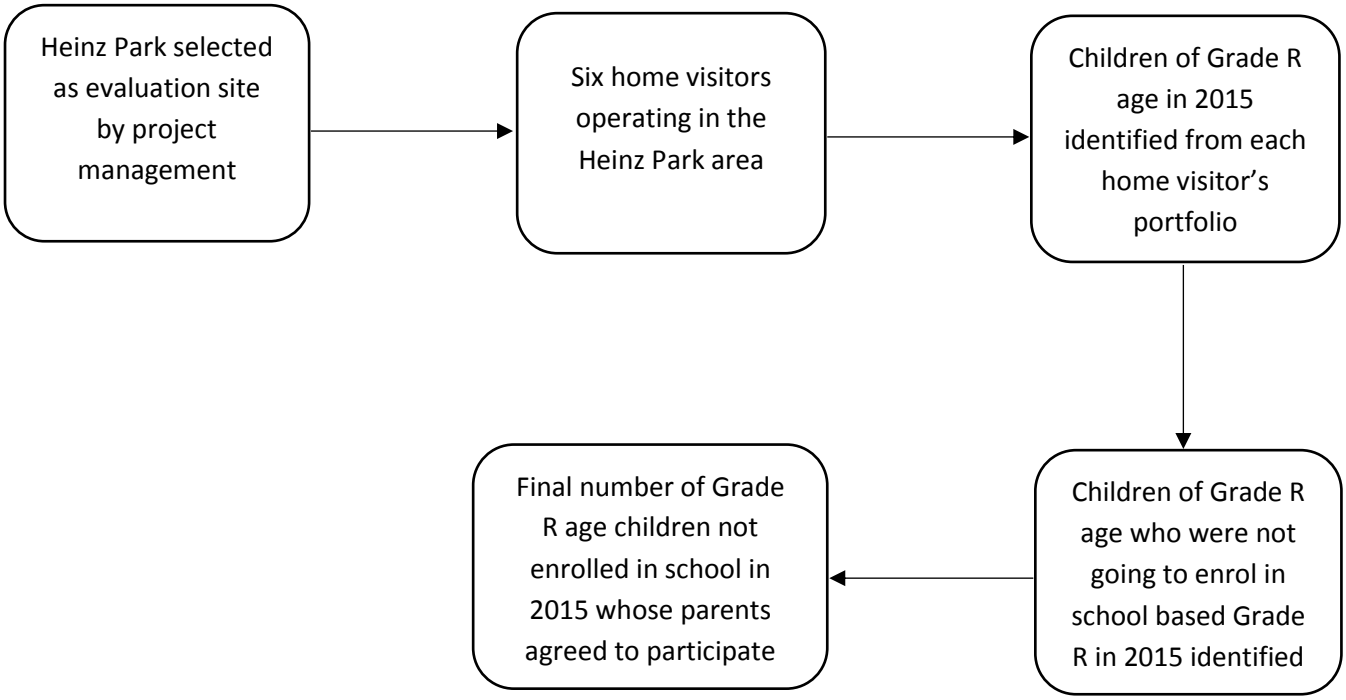


Figure 1. Summary of Sample Selection of FiF Intervention Children

The total number of children in the 5-6 year age group in Heinz Park sample was 26. No children in this group were attending another Grade R intervention. All 26 primary caregivers of these children were invited to participate in the small sample evaluation. These were identified as the individuals whom home visitors interact with during home visits to teach age appropriate developmental activities for a child in the FiF programme.

Typically, in research and evaluation studies, use of a control group – a group of participants that is identical the treatment group in a number of demographic variables but does not receive any treatment – is used to assess how participants who do receive treatment have progressed. A number of factors prevented the use of such a control group that have not participated in any intervention at all. This was established through interviews with ECD practitioners in the Mitchells Plain area in the planning phase. There was a possibility of a high rate of attrition for families with

children who are not in school or involved in any intervention, as they are characterised by high migration patterns. As I could not increase the size of my sample of the FiF programme as per the flow chart in Figure 1, children in a teacher-based Grade R class who attended a school in the same area were chosen as a non-equivalent comparison group. The benefit of this is that in addition to the difference from pre-test to post-test of the FiF programme group, it enabled me to assess the differential growth rate of the two groups; that is how two groups from the same community that received different treatments, progressed in the school preparation year, over a period of one year. Although this group did not comprise a strictly good comparison, the comparison contributed something new to literature as will be discussed in the discussion chapter. No children in the comparison group were receiving additional treatment other than the school-based Grade R. I received consent for a total of 24 children between the ages of 5 – 6 years from this class to take part in the small sample evaluation. As I had little control over selecting the intervention and comparison groups, I used a matching exercise to assess how similar or different the two groups were. The matching exercise was based on the following characteristics: whether a parent received a child support grant, the highest level of maternal education, presence or absence of a father figure (in terms of involvement in the child's life) and employment status of the head of the household for all children. Household income was not assessed. However, to qualify for a child support grant, the recipient should not have an income of more than R45 600 for a single income and not more than R91 200 for a combined income. The results will be presented in Chapter 6 under evaluation question 11.

Both the FiF programme group and the comparison group children did not have baseline data on the five developmental areas to be assessed. I conducted a baseline assessment in the form of the pre-test as a starting point to compare progress in this year of formal school preparation. This was done with the acknowledgement and caution that this period may be too short for any real effects.

Procedure and Materials

Table 6 presents the measuring instruments and materials that were used for each evaluation question.

Table 6

Evaluation Questions and Measuring Instruments

Evaluation question	Materials/measuring instruments
Programme theory	
1. Are the assumptions underlying the FiF programme plausible?	Literature review of social science research
Programme implementation for home visitors	Programme records: Home visitor contact details
2. Did the small sample evaluation reach the intended home visitors?	Interview schedule: Home visitor profile
3. Was the training for home visitors implemented as intended (content) and with the necessary intensity (dosage) and quality in terms of the training materials (research -based and developmentally appropriate, aligned with ECD standards) and instructor delivery (efficacious training)?	Content: Module and Guides training manuals Dosage: FiF programme training and support records and Interview schedule: Home visitor profile Efficacy: FiF training and support records and Interview schedule: Home visitor profile
4. What level of participant responsiveness did the home visitors display during the training (attendance, engagement, indications of understanding)?	FiF programme training and support records
5. Were there sufficient resources to implement training for the home visitors with fidelity and quality?	Interview schedule: Training and support staff
6. Did the pilot programme reach the intended caregivers?	Caregiver demographic questionnaire Interview schedule: caregiver profile
7. Was the training for caregivers implemented as intended (content) and with the necessary intensity (dosage) and quality in terms of the training materials (research-based and developmentally appropriate, aligned with ECD standards) and instructor delivery (efficacious training)?	Home visitor report on individual families Interview schedule: caregiver profile Interview schedule: Project Coordinator
8. What level of participant responsiveness did the caregivers display during the training (attendance, engagement, indications of understanding)?	Home visitor report on individual families Helping Relationship Inventory (HRI) questionnaire by Poulin and Young (1997)
9. Were the caregivers able to apply what they have learnt with the necessary intensity and quality (efficacious stimulation and parenting)?	Home visitor report on individual families Interview schedule: caregiver profile Parenting Sense of Competence Scale by Johnston and Mash (1989) Child-Parent Relationship Scale by Pianta (1992) Warwick-Edinburgh Well-Being Scale by NHS Health Scotland, University of Warwick and University of Edinburgh (2006)

10. Were there sufficient resources to implement the training for caregivers with fidelity and quality?	Interview schedule: Home visitor profile
Programme implementation for children	
11. Did the small sample evaluation reach the intended children?	Programme enrolment records Interview schedule: caregiver profile Caregiver demographic questionnaire
Programme outcomes for children	
12. Are the children in the programme better off in terms of age appropriate motor, cognitive, language, social and emotional development after the programme than before? In addition, are they equal in terms of development when compared to a group of children who are attending traditional Grade R?	**Cognitive*: Early childhood development criteria section A (Herbst test) by Herbst and Huysamen (2000). **Motor*: Early childhood development criteria section B (Herbst test) by Herbst and Huysamen (2000). **Language*: Peabody Picture Vocabulary Test (PPVT) by Dunn and Dunn (2007) **Social*: BUSSE-SR by Bustin (2007) **Emotional*: BUSSE-SR by Bustin (2007)

*Data using these measures were collected twice at pre (February) and post-test (November).

All other data were collected once at different points in either February or November 2015.

All data were collected between February and November 2015 with some measures used twice at pre and post-test and other measures used only once as indicated in Table 7. Programme records, questionnaires, structured interviews and child developmental tests (referred to in Table 7) were used to collect data. Questionnaires and child development tests were made available in both Afrikaans and English as these were the main languages spoken in the area. Structured interviews incorporating the questionnaires were used to collect data from parents and caregivers. Caregivers where asked to indicate their preferred language prior to conducting interviews, depending on their level of comprehension. Afrikaans and English response placards were used as the medium of instruction for primary caregivers to select the most appropriate response. Administering the questionnaires in the form of structured interviews reduced the likelihood of missing data and accommodated for the possibility of different levels of literacy that the participants may have had. As some of the instruments used were developed in the United States, terms in the questionnaires that are used differently in the South African context were translated or explained. Clarification was provided to participants for questions that needed further explanation. Interview schedule data for home visitors and primary caregivers and training and delivery data were collected retrospectively at the end of the data collection period in November.

Developmental outcome data were collected through a pre-test in February and a post-test in November of 2015. Two Psychology Honours graduates with psychometrics training were used as research assistants to administer the school readiness tests. The developer of the ECDC tests trained the research assistants prior to administering tests, using children of the same age from the same area as the FiF programme children. Tests were administered at a central location in Heinz Park where caregivers with children in the FiF programme could easily access the venue. A schedule for testing was used based on geographical residence of the children. For children in the school-based Grade R programme, testing took place in a separate classroom on the primary school premises. Testing times were arranged in alphabetical order of children in the Grade R class. Data on mediating factors (child, caregiver and home environment characteristics) were also collected retrospectively. Prior to conducting assessments, the research assistants conversed with the child in both English and Afrikaans to gauge levels of comprehension for

both languages in order to make a decision on the language of instruction for the assessment. The period between February and November was selected in order to collect all relevant information linked to activities that influenced the developmental outcomes of the children who were assessed. The instruments that were used for each evaluation question will be described in detail along with the procedure of data collection that was used.

Evaluation Question 1. Are the assumptions underlying the FiF programme plausible?

The first step in assessing the plausibility of a programme theory is to disaggregate it in an impact theory, a service utilisation plan and an organisational plan (Rossi et al, 2004). The impact theory is the change process that will result in the improvement of a targeted condition. The service utilisation plan details critical assumptions about how and why the target beneficiaries will engage with the programme and the organisational plan that details the human, financial and physical functions that will enable the programme to work. This process was conducted through engagements with FCW management staff as well as reviewing programme records. I utilised Rossi et al.'s (2004) unstructured and open-ended review process to answer the following questions as a guide to assessing the FiF programme's plausibility:

1. Are the programme goals and objectives well defined? Are they measurable?
2. Is the change process presumed in the programme theory plausible and are the programme goals and objectives feasible?
3. Are the programme procedures for identifying members of the target population, delivering service to them, and sustaining that service through completion well defined and sufficient?
4. Are the components, activities, and functions of the programme well defined and sufficient to attain the intended programme goals and objectives?
5. Are the resources allocated to the programme and its various components and activities adequate?

In addition to engagements with FCW management, a systematic review of relevant literature and past research on home visiting programmes specifically for child

development outcomes for school readiness was used to weigh the likelihood of the FiF activities resulting in the intended outcomes. A multi database search was conducted using the electronic platform EBSCOhost that provided access to full-text research databases across a variety of disciplines. Google Scholar was also used as a platform to access full text electronic research and evaluation articles on the World Wide Web. All disciplines were selected and searches were conducted using the key words 'home-based pre-school, home visiting programmes/programs, community pre-school, pre-school research, pre-school evaluations'. Boolean operators (or, and, not) were used with the key search words. From the list of publications in this search, home visiting programme studies and evaluations that were not related to the specific child developmental outcomes that were evaluated in this research were eliminated. This was because the FiF programme theory has the overall objective to improve the development of children in the five developmental outcomes discussed in previous chapters, through the mechanism of home visiting. It was therefore important when assessing the FiF programme theory to review studies and evaluations that combine these specific components. Search options were limited to research and evaluations conducted within the past 10 years. Articles with relevant abstracts were selected for review and appropriate articles were used to assess the plausibility of the FiF programme theory using Rossi et al. (2004)'s guiding questions.

Evaluation Question 2. Did the pilot programme reach the intended home visitors?

As mentioned in Chapter 4, home visitors were selected in terms of specific criteria. An individual needed to have at least completed Grade 9, display an interest in their local communities and exhibit a passion for early childhood development care and education (in the form of involvement in past ECD related initiatives). Home visitors were also expected to identify and recruit 35 families in their communities prior to being trained as a home visitor. In order to assess these criteria, home visitors were interviewed and asked specific questions about themselves and their motivation for becoming home visitors. Structured interviews were used to ask the home visitors the following specific questions in Table 7 at the end of the period of data collection.

Table 7

Interview Schedule: Home Visitor Profile for Evaluation question 2

1. How long have you been a home visitor in the FiF programme?
2. How far had you gone with schooling when you became a home visitor?
3. What were your reasons for becoming a home visitor with the FiF programme?
4. Did you have any experience working with programmes for children before becoming a home visitor? Please explain.
5. Do you have any children? If yes, have they ever taken part in the FiF programme?
6. How many families did you start with in 2015?
7. How many children were you responsible for in the FiF programme this year? What are the age groups of these children?
8. How many families are still in the programme now?

Evaluation question 3. Was the training for home visitors implemented as intended (content) and with the necessary intensity (dosage) and quality in terms of the training materials (research-based and developmentally appropriate, aligned with ECD standards) and instructor delivery (efficacious training)?

In order to assess the content of home visitor training, training manuals were reviewed. The content of the Module and Guides training manuals was reviewed to assess whether it was in line with research-based content that was developmentally appropriate and aligned with ECD standards as proposed by the Department of Social Development in South Africa. This provided information to establish the quality of the training materials used.

To assess the dosage or intensity of home visitor training, training records were also reviewed. Information that was incorporated from the training records included the amount of time dedicated to both Module and Guides training, and when the training was received in relation to home visitors conducting their field duties. This was assessed using training attendance records.

To assess the efficacy of home visitor training, training evaluation feedback is the method commonly used. The FCW does not currently utilise any standardised training evaluation technique. For this small sample evaluation, structured interview

questions were used to collect information from the home visitors on their experiences from training. As home visitors were recruited and trained at different points of the programme, varying lengths of time had passed since home visitors were trained. Questions on training efficacy therefore also included how training had assisted home visitors in conducting their duties as home visitors. The following specific questions in Table 8 were asked.

Table 8

Interview Schedule: Home Visitor Profile for Evaluation question 3

1. Did you receive Guides training when you became a home visitor? If yes, when?
2. Did you receive Module training when you became a home visitor? If yes, when?
3. If yes to question 2, have you received training for all modules (module 1-4)?
4. Was the training delivered or done in a manner that was easy for you to understand? If no, please explain.
5. Did the training you received for the FiF programme help you in your job as a home visitor? Please explain.
6. Do you think you received enough training to help you in your job as a home visitor? Please explain.
7. If no to the question above, what more do you think could have been done in training to help you with your job as a home visitor?

Evaluation question 4. What level of participant responsiveness did the home visitors display during the training (attendance, engagement, indications of understanding)?

At the end of training, home visitors were given assessments by training staff to measure engagement and understanding of training content. These assessments were reviewed to evaluate these elements. Attendance was assessed using attendance registers that were completed by home visitors and training staff to assess intended versus actual attendance.

Evaluation question 5. Were there sufficient resources to implement training for the home visitors with fidelity and quality?

In order to establish whether there were sufficient resources to implement training with fidelity and quality, training and support staff at the FCW were interviewed. Questions were directed at Mitchells Plain home visitor training only. Specific interview questions as listed in Table 9 that were asked.

Table 9

Interview Schedule: Training and Support Staff for Evaluation Question 5

1. How many training sessions did you present for Guides training?
2. How many training sessions did you present for each module's training?
3. How many home visitors do you train per session?
4. How many trainers conducted training per session?
5. Was there suitable room (space) to conduct training?
6. Was there adequate furniture to conduct training?
7. Were there enough training manuals to conduct training?
8. Are there any additional resources you think would have helped you deliver training better?

Evaluation question 6. Did the pilot programme reach the intended caregivers?

The FCW already stored basic demographic details about participating families. Additional information that the FCW did not collect was required for this pilot programme. To collect additional information, two methods were used; a tailored caregiver demographics questionnaire (labelled Personal Information Questionnaire) and an interview schedule specifically for primary caregivers. The personal information questionnaire encompassed questions-based on risk items discussed in relation to SES in Chapter 3. The items are displayed in Table 10.

Table 10

Personal Information Questionnaire for Evaluation Question 6

1. Name of child in the FiF programme……..
2. Birth date of child…….
3. When did the child start the FiF programme……
4. What is your relationship with the child?.....

DETAILS OF THE HOME OF THE CHILD

5. How old was the mother when the child was born?.....
6. Does the mother of the child receive any child welfare grants? *Tick one from the options provided.*
   - Yes
   - No
7. What is the **highest level** of education of the mother of the child? *Tick one from the options provided.*

- Completed primary school
- Matric qualification
- College qualification
- University qualification
- Other (please explain) ……..

8. Is the father/stepfather of the child actively involved in the life of the child? *Tick one from the options provided.*

- Present
- Absent

9. What job does the head of the home do? *Tick one from the options provided.*

- Unemployed
- Unskilled worker
- Semi-skilled worker
- Skilled worker
- Business owner

10. How many children (below the age of 18 years) live in the household of the child?.....
11. How many adults (18 years and above) live in the household of the child?.....
12. How many people who live in the house and are able to work have a

job?……

Information collected in the personal information questionnaire concerned relevant basic information about the caregiver, child and child's household. The questionnaire was made available in both English and Afrikaans. Primary caregivers were asked to complete the form when providing consent for their child to be assessed at the beginning of the year. Additional information collected in the interview schedule was collected at post-test using specific questions listed in Table 11.

Table 11

Interview Schedule: Caregiver Profile for Evaluation Question 6

1. Are you the person who looks after (name of child) most of the time?
2. Are you a family member of (name of child)?
3. If yes, what kind of family member?
4. How many children have you taken through the FiF programme?
5. What were your reasons for joining the FiF programme?
6. How old was the child when he/she joined the FiF programme?

Evaluation question 7. Was the training for caregivers implemented as intended (content) and with the necessary intensity (dosage) and quality in terms of the training materials (research-based and developmentally appropriate, aligned with ECD standards) and instructor delivery (efficacious training)?

Home visitors submit monthly reports that document and summarise activities during home visits. The reports detail information on the number and duration of home visits made for each family. A summary of the activities conducted is also provided. These reports were used to evaluate the content and dosage of the activities/training given to primary caregivers during designated visits. Additional information on these elements was collected to get a broader understanding. Information on instructor delivery was collected from caregivers through an interview schedule using specific questions. The questions are listed in Table 12.

Table 12

Interview Schedule: Caregiver Profile for Evaluation Question 7

1. How many times did (name of home visitor) come to your home per week?
2. How long did (name of home visitor) stay when she came to your home?
3. Did (name of home visitor) show you what to do with your child to help your child's development?
4. What else happened during (name of home visitor's) visits?
5. Did you attend parent meetings as part of the FiF programme?
6. If yes, how many parent meetings did you attend per month?
7. If yes, where the meetings helpful? Please explain.
8. If not helpful, please explain.
9. If you did not attend the parent meetings, what were your reasons?
10. Did you attend any toy libraries as part of the FiF programme with (name of child) this past year?
11. If yes, how many did you attend?
12. If no, please provide reasons.
13. If yes, where the toy workshops helpful? Please explain.
14. If not helpful, please explain.

The instrument that was used to measure another aspect of instructor delivery as per evaluation question 7 will be discussed under evaluation question 8. This is because the same instrument was used to answer aspects in evaluation question 8.

Evaluation question 8. What level of participant responsiveness did the caregivers display during the training (attendance, engagement, indications of understanding)?

As described in evaluation question 7, home visitors submit reports on home visits conducted on a monthly basis. These reports also detail attendance of primary caregivers to sessions. This was used to evaluate whether caregivers attended the required number of sessions as intended. The feedback section of the report on activities conducted provided information to evaluate indications of understanding.

Engagement of the primary caregiver (engagement as per evaluation question 8) and home visitor engagement (instructor delivery as per evaluation question 7) were

assessed using the Helping Relationship Inventory (HRI; Poulin & Young 1997). While describing engagement as a component of parent involvement, Korfmacher, Green, Staerkel, Peterson, Cook, et al. (2008) discuss its use as an indicator of quality of contact families have with a programme. The HRI, which stems from social work research, has historically placed emphasis on the importance of the quality of a worker and client relationship towards the success of the helping process (Biestek, 1957; Hollis, 1970; Perlman, 1979, Richmond 1917; Poulin & Young, 1997). It was a suitable measure to assess perceptions of engagement on the working relationship for the home visitor and primary caregiver (trainer vs. trainee).

The helping relationship is influenced by two components: structural and interpersonal. The structural component of the helping relationship refers to specified target problems that are to be addressed by the programme and the articulation of goals and tasks towards them. The clearer the structure of a programme, the easier it is for a worker and client to work together to achieve expected outcomes (Poulin & Young, 1997). The interpersonal component refers to the psychological bond that develops between a home visitor and a primary caregiver that facilitates engagement in the programme due to the two parties feeling at ease with working together (Azzi-Lessing, 2011; Poulin & Young, 1997). Use of the HRI has been examined in past home visiting programme research such as in studies by Olds, Robinson, O'Brien, Luckey, Pettitt, et al. (2002) and Korfmacher, Green, Spellmann, Thornburg (2007).

The HRI as developed by Poulin and Young (1997) consists of two versions, one for the client (HRI: C) and one for the worker (HRI: W). In both versions, there is a 10 item structural index and a 10 item interpersonal index. The reliability of the subscales when these were developed (Poulin & Young, 1997) is displayed in Table 13.

Table 13

Reliability of the HRI Questionnaire

HRI subscale	**Cronbach's alpha**
10-item structural HRI: C	.91
10-item interpersonal HRI: C	.96
HRI: C combined	.96
10-item structural HRI: W	.86
10-item interpersonal HRI: W	.91
HRI: W combined	.93

All items on the questionnaire were measured with a 5-point Likert type scale ranging from 1 (not at all) to 5 (a great deal). For the purposes of evaluating the quality of delivery in the FiF programme, items from the HRI questionnaire were adapted and tailored to match the home visiting programme. The terms social worker and client were replaced with home visitor and primary caregiver respectively. Items were also be reworded to closely resemble tasks in the FiF programme where necessary and the language on the questionnaire was simplified. All questions were also worded in the past tense.

There is no South African version of the HRI questionnaire. However, the questionnaire was selected because of its initial reliability. Furthermore, the language used in the questions could be simplified for the varying levels of literacy in the small sample evaluation while maintaining the original themes of the questionnaire. Table 14 presents the HRI questionnaire for home visitors and Table 15 displays the HRI questionnaire for the primary caregivers. The questionnaire for the primary caregivers was delivered by means of structured interviews in basic English.. The HRI was made available in both Afrikaans and English.

Table 14

Helping Relationship Inventory – Home Visitor

Name of child in the FiF programme……

Please put a circle on the answer that shows best what you think about each question.

Example:

How satisfied are you with the progress of the parent towards the development of the child?

Not at all *A little* *Somewhat* *A lot* *A great deal*

1. How much did the parent take part in deciding how you will work together?

Not at all *A little* *Somewhat* *A lot* *A great deal*

2. How much did you and the parent talk about the exact child development areas with which she wanted help?

Not at all *A little* *Somewhat* *A lot* *A great deal*

3. How clear were you about the exact child development areas that you and the parent talked about?

Not at all *A little* *Somewhat* *A lot* *A great deal*

4. How much did you and the parent talk about the exact child development goals that you hoped to complete in your work together?

Not at all *A little* *Somewhat* *A lot* *A great deal*

5. How much did the parent take part in deciding the child's development goals to work on?

Not at all *A little* *Somewhat* *A lot* *A great deal*

6. How clear were you about the parent's child development goals?

Not at all *A little* *Somewhat* *A lot* *A great deal*

7. How much did you and the parent talk about the exact actions she will take to deal with her child's development?

Not at all *A little* *Somewhat* *A lot* *A great deal*

8. How clear were you about the actions you were going to take?

Not at all *A little* *Somewhat* *A lot* *A great deal*

9. How involved was the parent in deciding how you will check her progress?

Not at all *A little* *Somewhat* *A lot* *A great deal*

10. How clear were you about how you and the parent were going to check her progress?

Not at all *A little* *Somewhat* *A lot* *A great deal*

11. Did you explain to the parent your understanding of (name of child)'s development?

Not at all *A little* *Somewhat* *A lot* *A great deal*

12. Was the parent's understanding of her child's development similar to yours?

Not at all *A little* *Somewhat* *A lot* *A great deal*

13. Did you enjoy meeting and talking with the parent?

Not at all *A little* *Somewhat* *A lot* *A great deal*

14. Is the parent more confident about dealing with her child's development because of talking to you?

Not at all *A little* *Somewhat* *A lot* *A great deal*

15. Did talking with you help the parent feel calm?

Not at all *A little* *Somewhat* *A lot* *A great deal*

16. Did you refer the parent to other child development services **not** provided by the FiF programme when needed?

Not at all *A little* *Somewhat* *A lot* *A great deal*

17. Did talking with you give the parent hope?

Not at all *A little* *Somewhat* *A lot* *A great deal*

18. In general, did you feel you and the primary caregiver saw things in similar ways?

Not at all *A little* *Somewhat* *A lot* *A great deal*

19. Did you help the primary caregiver to think more clearly about herself?

Not at all *A little* *Somewhat* *A lot* *A great deal*

20. Did you feel that you and the parent are alike in some ways?

Not at all *A little* *Somewhat* *A lot* *A great deal*

Table 15

Helping Relationship Inventory – Primary Caregiver

Name of child in FiF programme……

1. Did you take part in deciding how you and your home visitor were going to work together?

Not at all *A little* *Somewhat* *A lot* *A great deal*

2. How much did you and your home visitor talk about the development areas of your child with which you wanted help?

Not at all *A little* *Somewhat* *A lot* *A great deal*

3. Did you take part in deciding the development areas for your child in your work with the home visitor?

Not at all *A little* *Somewhat* *A lot* *A great deal*

4. How much did you and your home visitor talk about the development goals for your child that you hoped to complete in your work together?

Not at all *A little* *Somewhat* *A lot* *A great deal*

5. Did you take part in deciding the goals you would work on?

Not at all *A little* *Somewhat* *A lot* *A great deal*

6. How much did you and your home visitor speak about the actions **you** would take to deal with the development of your child?

Not at all *A little* *Somewhat* *A lot* *A great deal*

7. How much did you and your home visitor talk about the actions **your home visitor** would take to deal with the development of your child?

Not at all *A little* *Somewhat* *A lot* *A great deal*

8. How much did you and your home visitor speak about how your progress was going to be checked?

Not at all *A little* *Somewhat* *A lot* *A great deal*

9. How much input did you have in deciding how you and your home visitor would check your progress?

Not at all *A little* *Somewhat* *A lot* *A great deal*

10. How much did you and your home visitor talk about your progress?

Not at all *A little* *Somewhat* *A lot* *A great deal*

11. Did you feel your home visitor paid attention to you?

Not at all *A little* *Somewhat* *A lot* *A great deal*

12. Was your home visitor's understanding of your child's development similar to yours?

Not at all *A little* *Somewhat* *A lot* *A great deal*

13. Did talking with your home visitor help you get more confident about making a decision about dealing with your child's development?

Not at all *A little* *Somewhat* *A lot* *A great deal*

14. Did talking with your home visitor help you feel calm and relaxed?

Not at all *A little* *Somewhat* *A lot* *A great deal*

15. Did talking with your home visitor give you hope?

Not at all *A little* *Somewhat* *A lot* *A great deal*

16. Did your home visitor help you think more clearly about your child's development?

Not at all *A little* *Somewhat* *A lot* *A great deal*

17. Did talking with your home visitor help you to believe in yourself more?

Not at all *A little* *Somewhat* *A lot* *A great deal*

18. In general, did you feel that you and your home visitor saw things in similar ways?

Not at all *A little* *Somewhat* *A lot* *A great deal*

19. Did your home visitor help you to think more clearly about yourself?

Not at all *A little* *Somewhat* *A lot* *A great deal*

20. Did you feel that you and your home visitor were alike in some ways?

Not at all *A little* *Somewhat* *A lot* *A great deal*

Evaluation question 9. Were the caregivers able to apply what they have learnt with the necessary intensity and quality (efficacious stimulation and parenting)?

Home-visitor reports that document the progress of each caregiver and child were reviewed for this evaluation question. Self-reports from the parents on whether they were able to apply what they learnt from the programme were also used. These were in the form of questions in an interview schedule and parenting questionnaires. Specific questions that were asked to assess application of learned knowledge and skills are listed in Table 16.

Table 16

Interview Schedule: Caregiver Profile for Evaluation Question 9

1. Did you find it easy to use or do what you learnt from (name of home visitor)? If no, please explain.
2. Did you always manage to do the homework given to you by your home visitor? If no, please explain.
3. What difficulties (if any) did you experience in doing what you learnt from (name of home visitor)?

As an indicator of implementation ability, caregivers' parenting competency levels, perceptions of their relationship with their child and state of mental well-being were assessed. Valid and reliable scales were used to collect this information as discussed below. The scales were adapted and the language of the scale items was simplified to accommodate for varying literacy levels of caregivers.

Primary caregivers' sense of competence was assessed using the self-report of the Parenting Sense of Competence Scale (PSOC; Johnston & Mash, 1989). The PSOC scale consists of 17 questions that assess two dimensions of parenting self-esteem namely, efficacy and satisfaction. Efficacy in the scale refers to a parent's perceived familiarity with the role as parent, as well as perceived ability and competence to solve problems. Satisfaction encompasses the extent to which a parent feels anxious, frustrated and poorly motivated in the role. Response options on a 6-point Likert-type scale range from 1 (strongly agree) to 6 (strongly disagree). Some of

these items were reverse scored. A total score for this scale was calculated by summing individual items scores. Higher scores on this scale indicated lower levels of parental competence. The PSOC is a popular measure that has been used in a number of evaluations of parenting programmes (Giannotta, Ortega & Stattin, 2013; Reedtz, Handegard & Morch, 2011). The PSOC has demonstrated high levels of internal consistency. Two separate studies revealed that the lowest Cronbach alphas for the two subscales were 0.75 and 0.76 (Johnston & Mash, 1989; Ohan, Leung, & Johnston, 2000). The PSOC scale is presented in Table 17.

Table 17

Parenting Sense of Competence Scale

Please rate the extent to which you agree or disagree with each of the following statements.

Strongly disagree	Somewhat disagree	Disagree	Agree	Somewhat agree	Strongly agree
1	2	3	4	5	6

1. The problems of taking care of a child are easy to solve when you know that what you do can upset your child.

2. Even though being a parent could be a good thing, I am not happy now while my child is at his/her present age.

3. I go to bed the same way I wake up in the morning, feeling I have not done a whole lot.

4. I do not know why it is, but sometimes when I'm supposed to be in control, I feel more like my child can make me do whatever he/she wants.

5. My mother was better prepared to be a good mother than I am.

6. I would make a fine model for a new mother to follow in order to learn what she would need to know in order to be a good parent.

7. Being a parent is easy, and any problems can be easily worked out.

8. A problem with being a parent is not knowing whether you're doing a good job or a bad one.

9. Sometimes I feel like I'm not getting anything done.

10. I carry out my personal goals in caring for my child.

11. If anyone can find the answer to what is troubling my child, I am the one.

12. My talents and interests are in other areas, not being a parent.

13. Because of how long I've been a parent, I feel confident as a parent.

14. If being a parent was more fun, I would do my best to do a better job as a parent.

15. I honestly believe I have all the skills to help me to be a good parent to my child.

16. Being a parent makes me afraid.

17. Being a good parent is a good thing in itself.

The interaction between a mother and child has been shown to be more predictive of special education referrals in school than standardised tests (Pianta, Erickson, Wagner, Kreutzer, & Egeland, 1990; Wagner, 1993). Furthermore, measures of child-parent relationships can aid in identifying children who are at risk of school adjustment problems (Pianta & Harbers, 1996). The Child-Parent Relationship Scale (CPRS) (Pianta, 1992) measures parents' perceptions of the relationships they have with their children, specifically children between the ages of 3-12 years. The CPRS consists of an 8-item conflict scale that assesses the degree to which a parent perceives the relationship with their child to be marked with negativity. The CPRS also consists of a 7-item closeness scale that assesses the extent to which a parent perceives the relationship with their child to be characterised by affection warmth and open communication. The CPRS has been used in early childhood development care and education evaluations such as the Sure Start early child development programme national evaluation in England (National Evaluation of Sure Start, 2007 as cited in Simkiss, Snooks, Stallard, Kimani, Sewell, et al., 2013). Response options on a 5-point Likert-type scale range from 1 (definitely does not apply) to 5 (definitely applies). High scores on the closeness subscale indicate a positive parent-child relationship where as a high score on the conflict subscale indicates a poor parent-child relationship. The subscales are reported to be reliable with the lowest Cronbach's alphas of $\alpha = 0.78$ on the conflict subscale, $\alpha = 0.64$ on the closeness scale from previous studies (Driscoll & Pianta, 2011). The CPRS is presented in

Table 18. In statements where “my child” appeared, the phrase was substituted with the name of the child.

Table 18

Child-Parent Relationship Scale

Please rate the extent to which you agree or disagree with each of the following statements.

Definitely does not apply	Not really	Neutral/not sure	Applies somewhat	Definitely applies
1	2	3	4	5

1. I have a loving relationship with my child.
2. My child and I always seem to not work well with each other.
3. If upset, my child will seek comfort from me.
4. My child does not like to be touched by me.
5. My child is happy his/her relationship with me.
6. When I say nice things to my child, he/she is feels proud.
7. My child shares information about himself/herself without me asking.
8. My child easily becomes angry at me.
9. I can easily tell what my child is feeling.
10. My child stays angry after being told he/she is doing something wrong.
11. Dealing with my child takes a lot of my energy.
12. When my child is in a bad mood, I know we are going to have a difficult day.
13. My child’s feelings toward me can change suddenly.
14. My child can easily fool me.
15. My child openly shares his/her feelings and experiences with me.

The Warwick-Edinburgh Well-being Scale (WEMWBS) was used to assess the mental well-being of caregivers. Mental well-being is an important caregiver characteristic in assessing parenting and home-based early education programmes as it relates to a caregiver's ability to cope with parenting duties. Caregivers are mediators in the delivery of the programme and attainment of expected outcomes for children. Mental well-being relates to a person's psychological functioning, which includes self-esteem, ability to maintain a sense of autonomy and self-acceptance. The WEMWBS measures well-being in itself and not the determinants of mental well-being (Stewart-Brown & Janmohamed, 2008). The scale comprises 14 items that relate to an individual's thoughts and feelings over a specified period. The WEMWBS was found to contain high internal consistency ($\alpha = 0.82$) from a sample of 348 individuals (Stewart-Brown & Janmohamed, 2008). Response options on a 5-point Likert-type scale ranged from 1 (none of the time) to 5 (all of the time). Low scores on the WEMWBS indicate poor mental well-being. The scale is presented in Table 19.

Table 19

The Warwick-Edinburgh Well-being Scale (WEMWBS)

Please rate the extent to which you agree or disagree with each of the following statements.

None of the time	Rarely	Some of the time	Often	All of the time
1	2	3	4	5

1. I've been feeling positive about the future.
2. I've been feeling useful.
3. I've been feeling relaxed.
4. I've been feeling interested in other people.
5. I've had a lot of energy.
6. I've been dealing with problems well.
7. I've been thinking clearly.

8. I've been feeling good about myself.
9. I've been feeling close to other people.
10. I've been feeling confident.
11. I've been able to make up my own mind about things.
12. I've been feeling loved.
13. I've been interested in new things.
14. I've been feeling cheerful.

Evaluation question 10. Were There Sufficient Resources to Implement the Training for Caregivers With Fidelity and Quality?

To answer this evaluation question, the interview schedule for home visitors included questions related to resources that were available for programme implementation. Specific questions that were asked are listed in Table 20.

Table 20

Home Visitor Profile for Evaluation Question 10

1. Do you think you received enough support from the project coordinator to do your job as a home visitor? If yes, please explain.
2. If no to question 1 above, what more would help you do your job as a home visitor better?
3. Is there anything (other than what you have spoken about) that you think made it difficult for you to do your job as a home visitor?
4. Did you receive the Guides books (home visitor, parenting programme and ECD toy workshop guide) after training to help you in your job as a home visitor?
5. Were the Guides books easy for you to understand? If no, please explain.
6. Were the Guides books easy for you to use when doing your job as a home visitor? If no, please explain.

Evaluation question 11. Did the pilot programme reach the intended children?

Information to answer evaluation question 11 was simultaneously collected with evaluation question 6 (Did the pilot programme reach the intended caregivers?). Basic demographic information from the FCW and the caregiver demographics/personal information questionnaire (see Table 11), and questions from the caregiver interview schedule (see Table 12) were used to answer evaluation question 11.

Evaluation question 12. Are the children in the programme better off in terms of age appropriate motor, cognitive, language, social and emotional development after the programme than before? In addition, are they equal in terms of development when compared to a group of children who are attending traditional Grade R?

The measures that were used in the pre and post-test to assess the children's developmental outcomes are presented in Table 21 below and will be discussed in more detail thereafter.

Table 21

Measures for Outcomes

Outcome	Measure
Cognitive skills	Early Childhood Development Criteria (ECDC) Section B
Motor development	Early Childhood Development Criteria (ECDC) Section A
Language	Peabody Picture Vocabulary Test (PPVT)
Social skills	BUSSE-SR
Emotional development	BUSSE-SR

The Early Childhood Development Criteria (ECDC) test (Herbst & Huysamen, 2000), which is a set of developmental scales designed for use with environmentally disadvantaged pre-school children in South Africa, was used. The test was developed with the intention of creating a child-friendly and culturally appropriate test that can identify cognitive and motor developmental problems (Herbst & Huysamen, 2000). The ECDC test consists of subscales that assess pre-school children's ability

to execute selected cognitive, fine and gross motor tasks within a structured situation. The test was designed to take approximately 40 minutes per child to administer. In this pilot programme, each ECDC test took approximately 1 - 1$_{1/2}$ hours to administer. The test contains Section A that covers cognitive functioning and Section B that covers fine and gross motor skills.

The ECDC test was found to have good test-retest reliability ranging with coefficients of 0.93 for Section A and 0.85 for Section B (Herbst & Huysamen, 2000). The test contains a detailed manual on administration and scoring. Children who have received specific stimulation from attending traditional nursery schools have been found to perform approximately one standard deviation above those who have received no attention (Herbst & Huysamen, 2000). For this reason, the ECDC scoring manual contains two separate norm tables based on norm data from 644 children who have received stimulation, and 277 who have not. Total scores can be transformed into standard scores or assessed according to age equivalent values and percentile ranks (Herbst & Huysamen, 2000). The complete test is presented in Appendix A.

The Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4) developed by Dunn and Dunn (1957) and revised in 1981, 1997 and 2007 was used to assess improved age appropriate language development of the children. The PPVT-4 scale is a norm-referenced instrument used for measuring the receptive hearing vocabulary of both adults and children. The test has been found to contain good construct and content validity for all 20 content areas and is reported to contain an internal consistency of 0.94. The full test consists of 228 items representing 20 content areas such as tools, vegetables and actions. The test was developed for standard American English speakers but it has been adapted in South Africa and translated to standard South African English, as well as Afrikaans and Xhosa. The adapted South African version used in this pilot programme had 108 items. The number administered depended on the ability of the examinee. For each item, the examiner said a word and the examinee responded by selecting a picture that they thought best illustrated the word. There are no age norms for the South African adapted version of the test. Individual scores were calculated and compared to results from the comparison group. The adapted South African version used in this pilot programme is presented in Appendix C.

There is a lack of appropriate South African measures for socio-emotional school readiness to learn and therefore South African studies rely on USA tools for assessment (Bustin, 2007). Most of these tools have limitations for local populations (Bustin, 2007; Foxcroft, Luiz, & Tukulu, 2004; Lidz, 2003). A scale called the Behaviours Underpinning Skills for Social-Emotional School Readiness (BUSSE-SR) by Bustin, (2007) was constructed for the South African context in an attempt to address this shortcoming. The BUSSE-SR is based on four social-emotional school readiness to learn constructs, namely, self-understanding and awareness, self and emotion regulation, social adjustment and coping independence. All items on the questionnaire were measured with a 4-point Likert type scale ranging from 1 (not at all) to 4 (always). As with the PPVT, age norms for the test have not been established. Cronbach's alpha for the sub-scales range between .67 - .88. The internal consistency of each BUSSE-SR subscale at development stage is displayed in Table 22.

Table 22

Reliability of BUSSE-SR subscales

Subscale	**Cronbach's alpha**
Self-awareness	0.878
Self-regulation	0.872
Social adjustment	0.778
Coping independence	0.671
Scale total	*0.889*

The full BUSSE-SR questionnaire is presented in Table 23. Home visitors completed the questionnaire for the FiF children, and the class teacher for the children in the comparison group. Bustin (2007) found that teachers provided a more reliable report on social and emotional behaviours compared to parents or primary caregivers.

Table 23

Social and Emotional Child Development Assessment

Name of child……

Please put a circle on the answer that shows best what you think about each question.

Example:

The child can to bath him/herself

Not at all *Sometimes* *Mostly* *Always*

1. The child can tell others what he/she wants to do

   Not at all *Sometimes* *Mostly* *Always*

2. The child can play on his/her own without adults

   Not at all *Sometimes* *Mostly* *Always*

3. The child can feed him/herself at meal times
   Not at all *Sometimes* *Mostly* *Always*

4. The child is accepted by his/her peers
   Not at all *Sometimes* *Mostly* *Always*

5. The child can go to the toilet alone
   Not at all *Sometimes* *Mostly* *Always*

6. The child can wait his/her turn to speak in a group
   Not at all *Sometimes* *Mostly* *Always*

7. The child can listen to others without disturbing them when they talk
   Not at all *Sometimes* *Mostly* *Always*

8. The child can dress him/herself
   Not at all *Sometimes* *Mostly* *Always*

9. The child can control his/her excitement so that he/she does not disturb others
   Not at all *Sometimes* *Mostly* *Always*

10. The child helps others when he/she sees that they need it
    Not at all *Sometimes* *Mostly* *Always*

11. The child can express feelings physically for example with hugs, kisses, strokes or words
    Not at all *Sometimes* *Mostly* *Always*

12. The child can ask to play with a toy when it is being used by another child
    Not at all *Sometimes* *Mostly* *Always*

13. The child can maintain friendship over time
    Not at all *Sometimes* *Mostly* *Always*

14. The child can easily get used to changes in a daily routine
    Not at all *Sometimes* *Mostly* *Always*

15. The child takes care of his/her own things like toys or clothes
    Not at all *Sometimes* *Mostly* *Always*

16. The child can make a choice if I give him/her two things to choose from
    Not at all *Sometimes* *Mostly* *Always*

17. The child can get over being hurt quite quickly if he/she is not badly hurt
    Not at all *Sometimes* *Mostly* *Always*

18. The child can stop him/herself from becoming involved when other children do something they are not allowed to
    Not at all *Sometimes* *Mostly* *Always*

19. The child can follow rules
    Not at all *Sometimes* *Mostly* *Always*

20. The child can unpack his/her bag without help
    Not at all *Sometimes* *Mostly* *Always*

21. The child listens when I talk
    Not at all *Sometimes* *Mostly* *Always*

22. The child enjoys it when others show him/her love
    Not at all *Sometimes* *Mostly* *Always*

23. The child is proud of what he/she does (for example drawing)
    Not at all *Sometimes* *Mostly* *Always*

24. The child comforts others when they are hurt or upset
    Not at all *Sometimes* *Mostly* *Always*

25. The child shows us what he/she can do (for example drawings and playing)
    Not at all *Sometimes* *Mostly* *Always*

26. The child can approach his/her friends when he/she wants to play with them
    Not at all *Sometimes* *Mostly* *Always*

Coping independence refers to a child's ability to take care of him/herself. It includes behaviours such as going to the toilet, being able to dress oneself and independently choosing what to do. Items 2, 3, 5, 8, 15, 16 and 20 above form this subscale. Self-awareness, which is a child's ability to express affection, is composed of items 1, 10, 11, 22, 23, 24 and 25. Self-regulation refers to a child's ability to comply with rules and interact with others without interrupting. Items that form this subscale are 6, 7, 9, 12, 18, 19 and 21. The social adjustment subscale which is composed of items 4, 13, 14, 17 and 26 refers to a child's ability to make friends with peers and maintain relationships, as well as the ability to adjust to daily routines.

Evaluation question 12b. Did programme quality, child characteristics and home environment have any associations with the outcomes of the programme for the children?

This evaluation question was included as a subset of evaluation question 12. Children in the FiF programme were compared across the four different characteristics – programme quality, child, caregiver and home characteristics. On programme quality, key elements that were assessed were programme dosage and HRI ratings. Child characteristics that were assessed were a child's past schooling history; caregiver characteristics included maternal education, parent sense of competence and child-parent relationship as well as presence of father figure. Home environment characteristics that were assessed were employment of head of household, whether the primary caregiver of the child received a grant and the size of household. Data collected from the four mediating characteristics was analysed and used to create categorical values (yes and no) which were assessed against the score each child in the FiF programme received from the developmental tests as will be discussed in the results chapter.

Data Analysis

With the exception of evaluation question 9 and 12, data from all evaluation questions were qualitative in nature. The data were collected through semi-structured interviews that were recorded using a digital device in addition to completing responses in printed interview schedules. Recording of interviews was necessary for capturing responses to open ended questions. Thematic analyses

which is a method of analysing data by identifying patterns or themes in participant responses was used to analyse qualitative data from the interviews. Thematic analysis is a data analysis method that is not theoretically bounded allowing for flexibility, providing a rich detailed participant account (Braun & Clarke, 2006). The process allowed me to identify the frequency in similar response patterns in order to make interpretations for what was being investigated. An inductive method of analysis was incorporated, starting with precise content from the response patterns, and moving to broader generalisations which were then linked to theories (Alhojailan, 2012).

After the first step of data collection as detailed with each evaluation question presented above in this chapter, the next step was data reduction. Data reduction involved transcribing, selection and simplification of the information, which was captured into Microsoft Word. By organising the data in this way, I could read the responses in order to make connections between the thoughts and ideas presented by the respondents. For closed ended questions, similar responses were grouped, counted and recorded. For the open-ended questions where participants needed to provide further explanation for a response given, sentences that could be used from the provided responses were highlighted. Tables were created in Microsoft Word where highlighted responses were inserted according to similarity. Coding by means of identifying themes that emerged from response patterns was used. Central to this process was identifying themes that were reflected in the bulk of the data as predominant themes. Outlying responses were equally significant and were marked as differences to identified themes (Alhojailan, 2012).

The final step was data display, which involved compressing and organising information in order to arrange and make sense of the data. This was done in order to avoid data overload (Alhojailan, 2012; Miles & Huberman, 1994) when presenting the results under each evaluation question. The main methods used in the data display were figures, tables and narrative text.

Data from the cognitive and motor skills development assessments using the Early Childhood Development Criteria (ECDC) test for evaluation question 12 were analysed using software that is a part of the test package. Data on the date of the test, the age of the child and the scores attained for each sub-test were put into the

software. The software calculated an overall average score across all sub-tests referred as the ECDC index. All scores on the test were then evaluated against a single set of norms that are pre-coded in the software. In addition, a z-score was calculated which showed the standard deviation of each child from the population mean in the software. If the z-score was equal to 0 or higher, data output would label the child as normal, high or very high in terms of development. If the z-score was less than 0, data output would label the child as low or very low in terms of development.

The statistical programme, IBM 'Statistical Package for the Social Sciences' (SPSS), was used to conduct further analysis on the data output from the ECDC software. Descriptive statistics (mean and standard deviation) were used to describe the distribution of the average scores and inferential statistics (t-tests) were used for statistical comparisons of the data both within and between the programme and comparison groups. Responses from the BUSSE-SR (Bustin, 2007), the HRI (Poulin & Young, 1997), the PSCS (Johnston and Mash, 1989), CPR (Pianta, 1992) and the WEMWBS (NHS Health Scotland, University of Warwick and University of Edinburgh, 2006) questionnaires used to answer evaluation question 9, were also captured into the SPSS software. All responses were assigned a numerical value. For example with the BUSSE-R questionnaire, where *not at all* was selected, it was coded as 1; *sometimes* was coded as 2; *mostly* was coded as 3 and *always* was coded as 4. All data were screened for errors to ensure that there were no values that were lower than the minimum or higher than maximum of each specific scale. Descriptive statistics (mean and standard deviation) were used to describe the distribution of the data and inferential statistics (t-tests) were used for statistical comparisons of the data within and between the programme and comparison groups for the BUSSE-R responses. The same process was followed for all the questionnaires.

Ethics

The Director and Programme Manager of the FiF programme granted permission to conduct the evaluation as well as administer school readiness assessments to children in the programme. A hard copy letter that encompassed permission to conduct the pilot programme from both the parents and management of FiF

programme was given to me. Permission to include the community Grade R class in the evaluation was sought (see Appendix D) from and granted by the Principal and parents of the children. The consent letter signed by parents approving the school readiness assessments is presented in Appendix E. The purpose and duration of the evaluation was explained. Confidentiality of all data providers was maintained. The same procedure was followed for every participant. The completed questionnaires and consent forms were kept in a secure place where they were locked up for safekeeping and all data was analysed by myself. Approval to conduct the evaluation was sought from and granted by the University of Cape Town's Commerce Faculty Ethics in Research Committee. Approval from the University of Cape Town's Commerce Faculty Ethics in Research Committee is presented in Appendix F.

In the next chapter the results of the study will be described and some of the methods used will be clarified within context and with more detail.

CHAPTER 6

Results

This chapter presents the findings from the small sample evaluation of the FiF programme according to the evaluation questions that were generated earlier (see Chapter 4).

Programme Theory

1. *Are the assumptions underlying the FiF programme plausible?*

The first step in assessing a programme's theory is to elicit a detailed description of the conceptions, assumptions and expectations that determine the way the programme is intended to function. However, a programme theory is seldom made explicit or documented in detail (Rossi et al., 2004). The FCW does not have a detailed documented account of the programme's structure and functioning. Rossi et al.'s (2004) three interrelated components of programme theory were applied in eliciting, discussing and evaluating the plausibility of the FiF programme theory. The three components are the programme's impact theory, service utilisation plan and organisational plan.

The impact theory lists assumptions related to the change process that will result in an improvement of a targeted condition. It is a plan of how a set of activities is intended to lead to a specific set of results. A programme impact theory details two distinct features; firstly, that each element is either a cause or an effect within the programme and secondly that the elements occur in a sequence of events that begins with programme activities and ends with a change in social conditions (Rossi et al., 2004). To elicit the programme theory, I interviewed key stakeholders, namely the programme manager and facilitation staff in the FCW; I asked about their perceptions of the functioning of the programme and the intended programme objectives. Figure 2 displays a high-level depiction of the impact theory from key stakeholders.

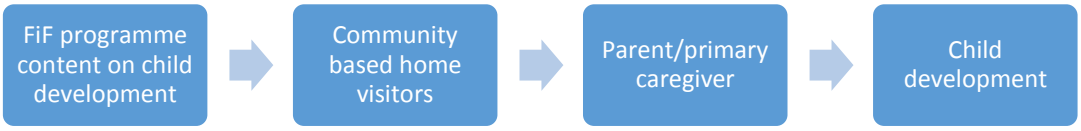


Figure 2. Stakeholder perception of programme impact theory

A detailed impact theory, however, should display the interaction of programme activities with both proximal and distal outcomes, highlighting critical assumptions about elements that the programme can control. Through further interaction with programme staff and viewing programme manuals, I extracted and documented a detailed programme impact theory that represents the actions and assumptions of the FiF. The revised impact theory was reviewed and agreed upon by programme staff. This is displayed in Figure 3 below.

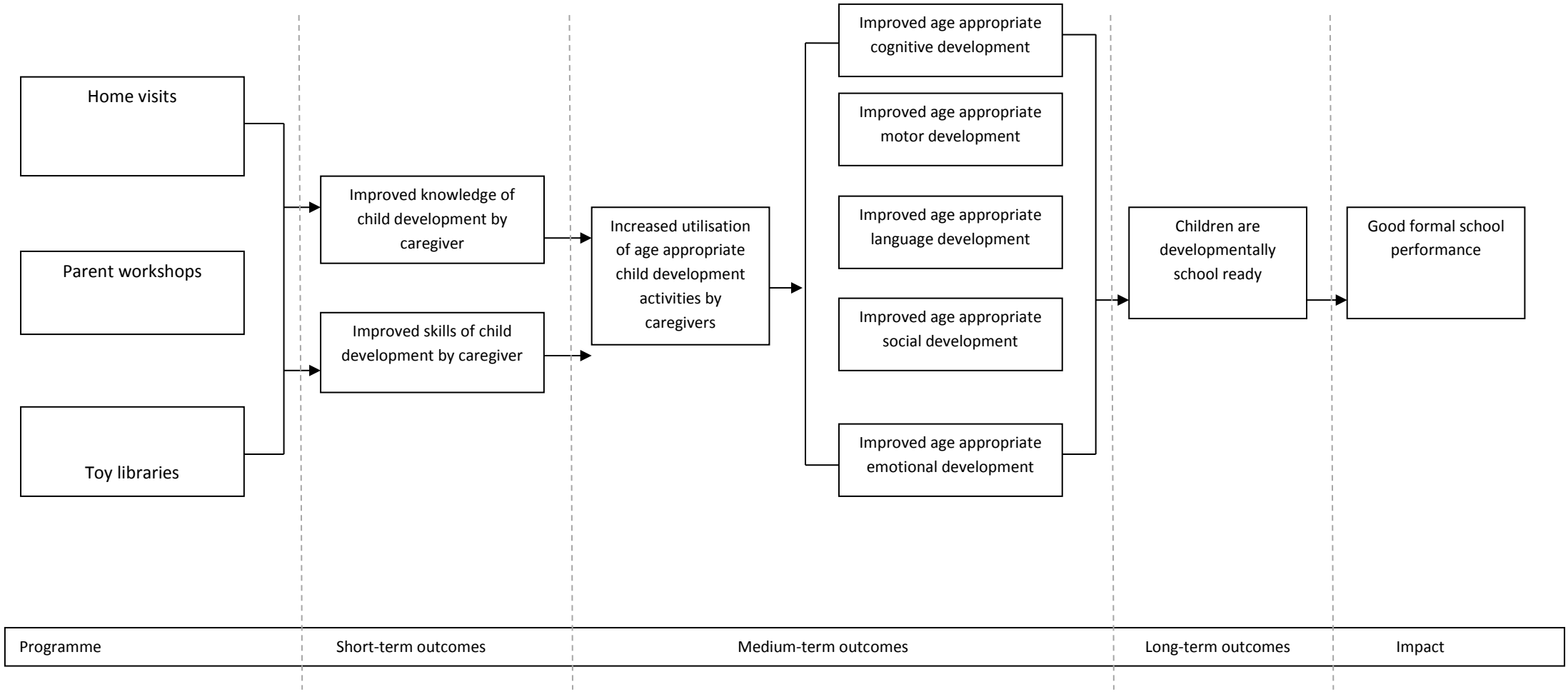


Figure 3. FiF programme Impact Theory

From the impact theory in Figure 3, the causal chain as intended by the FiF programme is clearer, detailing the attainment of the proximal outcomes from programme activities, which in turn leads to the distal outcomes and overall improvement on child development. Each programme element was discussed in Chapter 4 in the programme description.

The service utilisation plan of a programme highlights the critical assumptions that relate to how and why the target beneficiaries will engage with the programme and receive adequate services to lead to the expected change depicted in the impact theory (Rossi et al., 2004). Figure 4 displays a flowchart that represents the service utilisation plan for the FiF programme.

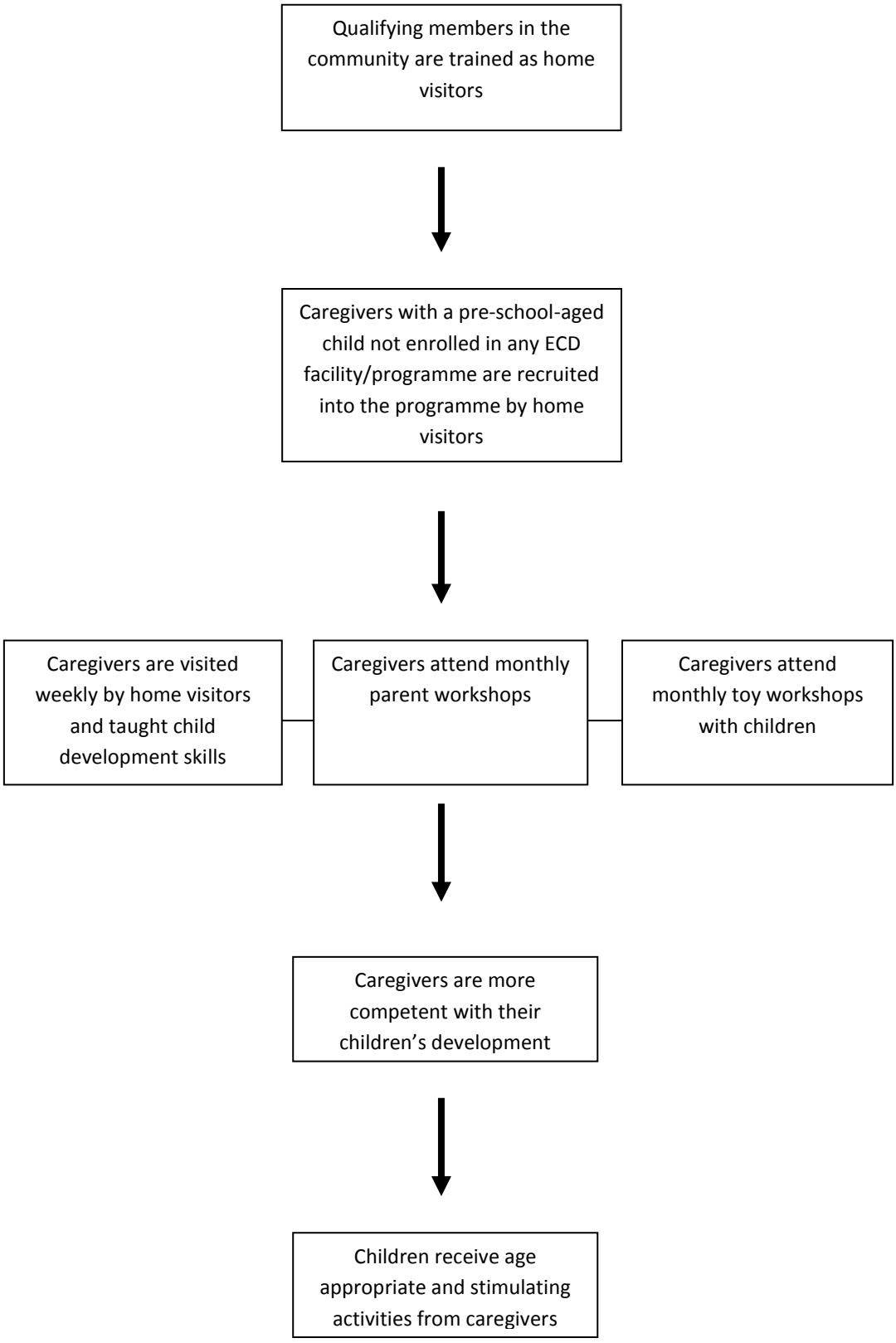


Figure 4. Service utilisation flowchart for the FiF programme

The FiF programme is implemented with the objective of benefiting children who are at risk of poor development due to lack of access to ECD services. Home visitors

and caregivers are utilised as agents of change in the programme as displayed in the service utilisation flowchart in Figure 4 above. Here it is clear that caregivers engage with the activities presented by the home visitors and then children engage with the developmental activities presented by the trained caregivers.

The organisational plan articulates the functions and activities that a programme is anticipated to perform concerning human, financial and physical resources from the perspective of management (Rossi et al., 2004). Figure 5 below displays the FiF programme's organisational plan as extracted from an implementation evaluation conducted by Biersteker (2015) after engaging with different stakeholders in the programme.

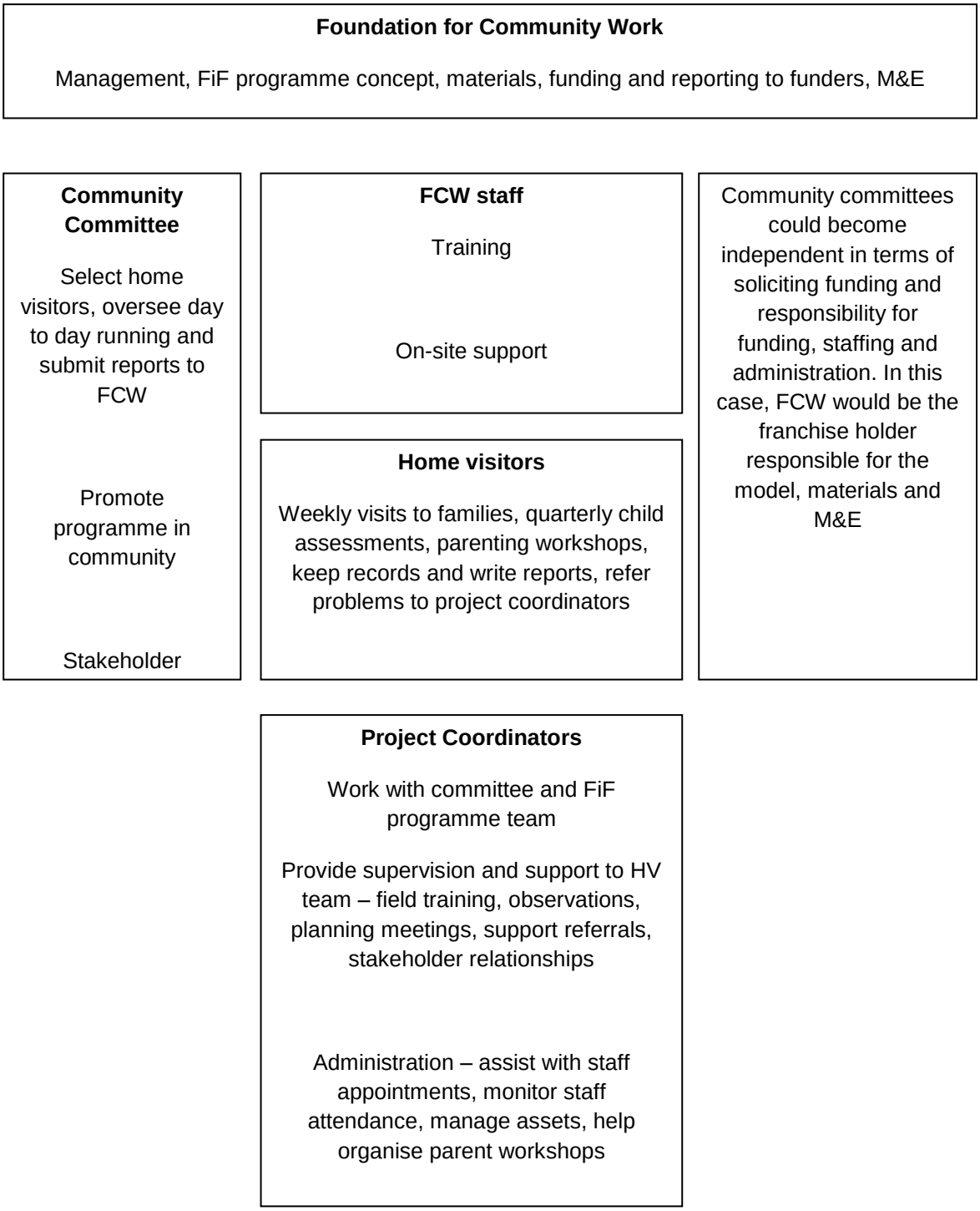


Figure 5. Organisational plan for the FiF programme.

Note: Adapted from An implementation evaluation of the Family in Focus Programme by L. Biersteker, 2015.

From Figure 5, it is clear that a range of structures and support staff are involved in programme delivery and oversight of the FiF programme. After articulating the FiF programme using Rossi et al.'s (2004) three components, key questions regarding whether this is a good theory in relation to what is needed to address the identified problem of the specific target and within the specific context, need to be posed.

The specific problem, the target population and the context of operation were identified first. The problem was identified as lack of access to ECD services for marginalised communities. In Biersteker's (2015) implementation evaluation of the FiF programme, donors indicated that one of the main reasons they fund the programme is to create access to ECD for children who are not in centres, in order to reduce the developmental gap by the time formal schooling begins. As stated in Chapter 3, at present a substantial number of Black South African children do not have adequate access to health care, quality nutrition, social services and education (Atmore, van Niekerk, & Ashley-Cooper, 2012). White children had greater access to ECD services that resulted in a developmental imbalance between the groups (Richter et al., 2012).

The FiF programme targets families and children from marginalised areas who are not attending/involved in any traditional or alternative ECD services. Although the proportion of 0-4 year old children attending out of home ECD facilities has doubled to about 32% in the past 10 years, attendance is still particularly low for the poorest 40% of the population (Harrison, 2012). One-fifth of children in this group attend out of home facilities. Attendance to out of home facilities in South Africa is highest in Gauteng (43%), Western Cape (39%), and slightly lower in KwaZulu Natal (25%) and Northern Cape (21%). Overall, only 6% of children 0-4 years old attend formal pre-school. Most children in that age bracket (22%) are accommodated in crèches that are typically less focused and structured on holistic child development.

FCW documents state that the programme seeks to operate in marginalised communities. These communities are typically characterised by poverty, unemployment, crime and violence. In conducting this small sample study, I encountered a number of situations that highlighted the prevalence of social ills that families in these marginalised communities experience on a day-to-day basis. During visits into the community, I witnessed an illegal substance raid by police officers in the home of a known illegal substances distributor. This home was located among some of the homes of the children who were assessed in this small sample study. In another incident, the mother of one of the children in the small sample study was prevented by her partner from taking part in a feedback session organised by myself on the experiences of caregivers in the programme. The mother was violently removed from the feedback session. One of the children in the pilot programme was

appearing as a defendant in a sexual assault court case – she experienced this assault two weeks prior to the post-test. Illegal substance trading, abuse and gang violence were prevalent issues that home visitors alluded to in interviews as mediating factors that affect their ability to conduct duties.

After defining and documenting the programme theory and elements involved, Rossi et al. (2004) suggest a number of issues that should be addressed in the form of review questions. Each question is presented and discussed in sequence.

Are the programme goals and objectives well defined? Are they measurable?

The FiF has documented three statements that represent the overall goals and objectives:

1. To serve as a strategy for ECD intervention in impoverished communities.
2. To assist primary caregivers and women in particular, to form groups in order to support each other and to access resources in support of their children.
3. To create a cadre of cost-effective ECD workers who provide support to the child's primary caregiver and other family members.

The most effective way to determine whether programme goals are well defined is to ascertain whether the goals are measurable (Rossi et al., 2004). It is imperative that specific, measurable, attainable, realistic and time-based (SMART) goals and indicators that reflect achievement of outputs and outcomes are articulated to enable programme monitoring. Such indicators are valuable for monitoring project performance during the project. After engagement with the different programme stakeholders, I identified suitable indicators as presented in the programme impact theory and service utilisation plan, which represent the goals of the programme. These indicators were then incorporated into the evaluation of the functioning of the programme, in agreement with stakeholders (see Chapter 4).

Is the change process presumed in the programme theory plausible and are the programme goals and objectives feasible?

The FiF programme is built on a number of inherent critical assumptions in order for the change process to result in the intended objectives. These assumptions are:

1. The use of home visitors from the community (paraprofessionals) will result in better engagement with beneficiaries of the programme.
2. Parents that are more knowledgeable make better parents in terms of child development.
3. Parents will be motivated to implement age appropriate child development activities when taught.
4. Provision of these inputs/services will reduce the gap in child development in underserved communities.

The FiF intervention implies that targeted children are at risk of poor development because of a deficiency in the skills and knowledge of caregivers in stimulating positive child development. This idea is linked to the cultural deficit model where negative assumptions are made regarding the abilities of systematically marginalised individuals (Irizarry, 2009). This model further assumes that children from low-income backgrounds do not perform well in development and academic assessments, because of a lack of exposure to models that are more congruent with school success. The assumption embedded in the FiF programme theory that more knowledgeable parents are better at parenting in terms of child development has been met with criticism (Cibrowski, 1976; Howard & Scott, 1981; Irizarry, 2009). In an ethnographic study of Latino families in USA, Delgado-Gaitan (2001) found that teachers believed that the majority of Latino parents were not sufficiently involved in their child's education, which in turn affected performance. However, findings in the study suggested that the involvement and contributions that Latino parents made in the educational experiences of their children were generally unrecognised by the school system (Delgado-Gaitan, 2001).

Home visiting as a method of accessing high-risk population groups in order to influence various developmental outcomes is not a recent concept. A vast number of programmes employ the strategy as a means of achieving stipulated objectives. For the FiF programme, the use of home visitors in the community as paraprofessionals, who deliver child development content into the homes of participating families, is a key component. In the past, home visitors were recruited based on professional experience, ethnicity and culture, age and maturity, gender and interpersonal skills (Wasik, 1993). Wasik, however, argued that it is rarely possible to apply all these

criteria as listed and that recruitment should be guided by each programme's individual philosophy.

With mixed findings available on the effectiveness of professionals over paraprofessionals and vice versa, important characteristics include the ability to be an effective helper (Poulin & Young, 1997), where a home visitor serves to help families to identify their own problems and set goals and aspirations incorporating alternative means to problem solving (Wasik, 1993). Paraprofessionals with varying levels of education are on occasion preferred as they reside in the same community as clients and share the same racial and cultural background. In addition, paraprofessionals have added advantages that enable them to conduct duties as home visitors. These include knowledge of community networks that assist in recruiting families into the programme, shared beliefs and values with participating families and easier access to tracking families who may have relocated (Wasik, 1993). The use of paraprofessionals does still have limitations, especially a lack of professional training in dealing with sensitive issues with families. The benefits of using paraprofessionals in home visiting programmes can be realised with sufficient training and ongoing support (Wasik, 1993). Training is an inbuilt component in the FiF programme as a means to equip community recruited home visitors with varying levels of education and experience, to enable better engagement of beneficiaries with programme content.

The home visiting model used in the FiF programme is not unique. It is a model that has been implemented around the world as an alternative to ECD access. It is adapted from the Parents as Teachers (PAT) model that was developed in 1981 in Missouri, USA. The PAT is a home visiting programme model that puts emphasis on positive parenting behaviours and is used as a medium to realise developmental benefits for small children (Wagner & Clayton, 1999). The PAT has three main properties; increasing the knowledge that caregivers have concerning child development, increasing perceptions and feelings of competence of parenting and preparing children for success in school (Wagner & Clayton, 1999). Typical PAT programmes utilise both individual and group interactions as a method of transferring information about good parenting and child development to primary caregivers. A standard curriculum which differentiates according to age groups (typically ages 1 – 3 years), is used by trained individuals who conduct home visits. The intention is to

build the competence of caregivers to engage in age appropriate stimulating activities with children, creating positive personal interactions that support child development. This ultimately results in well-developed children who will be ready for formal schooling (Wagner & Clayton, 1999).

The PAT model has a number of attractive features. It is based on the premise that babies are born with the ability to learn and therefore caregivers as the immediate point of contact are the first and most influential teachers for children. The use of caregivers who have varying backgrounds as opposed to trained professionals renders the PAT a relatively inexpensive model to implement (Wagner & Clayton, 1999). These characteristics closely resemble the functions that the FiF programme has incorporated as displayed in the programme impact theory (Figure 4) and service utilisation plan (Figure 5) above.

Home visiting programmes have been shown to be effective strategies for delivering needed early childhood development care and education intervention services to high-risk communities in South Africa. The Philani Maternal Child and Nutrition Project is an example of one such programme (Le Roux et al., 2013; Rotheram-Borus et al., 2011; Tomlinson, Hartley, Le Roux, & Rotheram-Borus, 2016). The Philani project recruits and employs mothers from high-risk communities to act as mentors in the same communities, conducting home visits to support positive health outcomes (Tomlinson et al., 2016). In a cross-sectional survey that assessed the effects of the Philani home-based intervention with over 8000 participants randomly assigned to either the programme or a control group that did not receive the intervention, the effects extended beyond the direct participants of the intervention. In addition to the intervention improving the growth of the child who received support through the programme within the first 1000 days of birth, the same effects were found for children under the age of 6 years living in the same household (Tomlinson et al., 2016). Overall, children living in the communities where Philani mentors were operating were less likely to be underweight than children living in the communities assigned to the control (Tomlinson et al., 2016).

Another study in South Africa assessed the outcomes of training lay community members in a disadvantaged peri-urban setting to conduct home visits with the aim of providing psychosocial support to expecting mothers through to 6 months

postpartum (Murray, Cooper, Arteche, Stein & Tomlinson, 2015). The intervention aimed to provide support to the mother specifically on psychosocial support to assist the attachment relationship with the infant. The study was a randomised control trial were pregnant females were either assigned to the intervention or control group. Socio-economic risk, antenatal depression and infant cognitive development at 18 months were assessed. There was no overall effect of the intervention on infant cognitive development in contrast to the benefits in infant attachment. Furthermore, infants whose mothers experienced antenatal depression tended to have lower cognitive scores. However, children who were not living in conditions of high socio-economic risk, particularly those who had access to electricity, experienced benefits in infant cognitive development (Murray et al., 2015).

Very few studies show the long-term effects of home visiting programmes (Gomby, 2005). Most home visiting evaluations assess short-term outcomes at the end of a programme or shortly thereafter. In a review of 12 meta-analyses of home visiting programmes, Gomby (2005) found that on average, effects rarely exceeded .20 of a standard deviation in size. These studies showed that home visiting programmes can produce benefits but only with a small magnitude of .1 - .2 of a standard deviation in effect size. In a study by Hebbeler and Gerlach-Downie (2002) to assess outcomes of home visiting programmes, 500 families were randomly assigned to either a home visiting programme or comparison group. The study found small and inconsistent effects on parent knowledge, attitude and behaviour and no overall gains in child development. Based on the findings in the meta-analyses it is realistic to assume that the FiF programme objectives can be attained because of the programme actions. However, at most, a moderate amount of change would be expected from the FiF programme.

Are the programme procedures for identifying members of the target population, delivering service to them, and sustaining that service through completion well defined and sufficient?

The service utilisation plan and the organisational plan detail the processes that the FCW follows in identifying, recruiting and providing support throughout the life of a project. The FiF utilises programme Guides Books (see Chapter 4) as manuals to document procedures for programme delivery. As will be discussed under evaluation

question 7, home visitors indicated that the documented procedures are well defined and sufficient in aiding completion of duties in the programme.

Are the components, activities, and functions of the programme well defined and sufficient to attain the intended programme goals and objectives?

The FiF utilises Guides books that have been designed to deliver tailored content of the FiF programme. When I began the evaluation research, three Guides books were in existence linked to each component of the programme (home visits, parent workshops and toy workshops). The three books have since been consolidated into a week-to-week guide of programme activities covering 48 weeks in the year. Home visitors viewed the consolidated version of the Guides book favourably as discussed further under evaluation question 7. A total of 12 home visitors indicated that programme components and activities were well defined and clarified in the revised version of the Guides book, assisting in execution of required duties.

Are the resources allocated to the programme and its various components and activities adequate?

The organisational plan in Figure 5 displays the resources that are dedicated to the functioning of the FiF programme. Consideration has been given to what is needed to fulfil the objectives as intended. To assess whether resource allocation is adequate in practice, findings are discussed further under evaluation question 10, where different stakeholders were interviewed on their experiences.

Programme Implementation For Home Visitors

Table 24 displays a summary of the findings from the FiF programme implementation evaluation in this small sample study.

Table 24

Summary of FiF Implementation Results

Evaluation question	Implementation fidelity
2. Did the FiF programme in the small sample study reach the intended home visitors?	11 out of the 16 interviewed home visitors were the intended home visitors.
3. Was the training for home visitors implemented as intended with regards to:	
- Content (research-based and developmentally appropriate, aligned with ECD standards)?	Training materials not accredited and lack of research on their efficacy.
- Dosage (necessary intensity)?	8 of the interviewed home visitors received the intended dosage, 8 did not.
- Instructor delivery (efficacious training)?	Could not be established due to lack of records.
4. What level of participant responsiveness did the home visitors display during the training in terms of:	
- Attendance?	Self-reported full attendance by all home visitors to delivered sessions. Lack of records to verify.
- Engagement and indications of understanding?	Yes for 10 home visitors, no for 6 home visitors.
5. Were there sufficient resources to implement training for the home visitors with fidelity and quality?	Sufficient resources for 8 home visitors, insufficient resources for remaining 8 home visitors.
6. Did the pilot programme reach the intended caregivers?	Yes.
7. Was the training for caregivers implemented as intended in terms of:	
- Content (research-based and developmentally appropriate, aligned with ECD standards)?	Although not accredited with lack of research on efficacy, 15 out of 16 home visitors adhered to content.
- Dosage (necessary intensity)?	Lack of concise programme records.
- Instructor delivery (efficacious training)?	Yes based on ratings by caregivers.
8. What level of participant responsiveness did the caregivers display during the training in terms of:	
- Attendance?	Inconsistent attendance based on home visitor reports.
- Engagement and indications of understanding?	Positive engagement based on ratings by home visitors.
9. Were the caregivers able to apply what they have learnt in terms of:	
- Efficacious stimulation?	Yes based on self-ratings.
- Parenting?	Yes based on self-ratings.
10. Were there sufficient resources to implement the training for caregivers with fidelity and quality?	Yes from positive responses of 13 out of 16 home visitors.

From the summary provided in Table 25, it is evident that there was implementation fidelity in some elements of the programme delivery, and a lack of fidelity in other elements. These are discussed in detail below.

2. *Did the FiF programme in small sample study reach the intended home visitors?*

A total of 16 home visitors were interviewed in this small sample study. All are female and work in the communities in which they live. The age range of the 16 home visitors was 22 - 60 years with an average age of 38 years. Length of time as a home visitor in the FiF programme ranged from 4 - 96 months with an average of 38 months. Table 25 displays the characteristics of all the home visitors who were interviewed.

Table 25

Characteristics of Home Visitors in Pilot Programme

Home Visitor	Length of time as a home visitor	Highest level of education	Previous ECD experience	Reasons for joining FiF programme	Can read and write
1	8 years	Grade 9	None	Unemployed and offered opportunity	Yes
2	6 years	Grade 9	Volunteered at an ECD centre	Unemployed and likes to work with people and children	Yes
3	1 year 4 months	Matriculated	Volunteered at an ECD centre	Unemployed parent in the FiF programme who likes to work with children	Yes
4	7 months	Grade 9	Volunteered at a crèche	Unemployed and enjoys working with children	Yes
5	2 years	Grade 7	Volunteered at a children's centre	Unemployed and enjoys working with children	Yes
6	4 months	Grade 11	Volunteered at a clinic working with pregnant women	Unemployed and wanted to contribute towards community development	Yes
7	5 years	Grade 7	Participated in Sunday school teaching	Unemployed and wanted to contribute towards community development	Yes
9	6 years	Grade 12	Volunteered at a children's playgroup	Unemployed and was seeking more involvement in the community	Yes
8	6 months	Grade 10	None	Unemployed and enjoys working with children	Yes
10	1 year 10 months	Matriculated	Worked as a teaching assistant	Unemployed and enjoys working with children	Yes
11	6 months	Grade 8	Volunteered at a crèche	Unemployed and enjoys working with children	Yes
12	6 months	Grade 9	Participated in Sunday school teaching	Unemployed and wanted to contribute towards community development	Yes
13	5 years	Grade 10	Conducted babysitting duties	Unemployed and offered opportunity	Yes
14	3 years	Matriculated	Volunteered at a crèche	Unemployed and offered opportunity	Yes
15	5 years	Matriculated	Conducted babysitting duties	Unemployed and enjoys working with children	Yes
16	5 years	Grade 9	Conducted babysitting duties	Unemployed and enjoys working with children	Yes

In Chapter 4, it was discussed that in order to be selected as a home visitor, an individual needs to have at least completed Grade 9, display an interest in their local communities, and exhibit a passion for early childhood development care and education (in the form of involvement in past ECD related initiatives). Home visitors also need to be able to read and write. As displayed in Table 26 above, 3 of the home visitors did not meet the required standard of having completed at least Grade 9 of formal education. Eleven home visitors reported that prior to joining the FiF programme, they had volunteered their time either at an ECD centre, crèche or at Sunday school in church. From the remaining home visitors, 3 reported that they had undertaken babysitting responsibilities for friends and family and 2 reported not having been involved in any ECD initiatives prior to joining the FiF programme. In response to their reasons for joining the FiF programme, almost all home visitors mentioned that they enjoyed working with children and wanted to take part in helping the children in their communities who do not have access to ECD facilities and are at risk from exposure to drug and other crime activity in the area. A total of 7 of the home visitors had been caregivers in the programme before becoming home visitors. All home visitors were unemployed when they took up employment with the FCW.

In light of these findings and taking into consideration the criteria of becoming a home visitor in the FiF programme, the programme largely reached the intended home visitors. The exception is the 3 home visitors who left school before completing Grade 9 and the 2 home visitors who had no previous experience in ECD related activities.

3. *Was the training for home visitors implemented as intended (content) and with the necessary intensity (dosage) and quality in terms of the training materials (research-based and developmentally appropriate, aligned with ECD standards) and instructor delivery (efficacious training)?*

As described in Chapter 4, FiF training for home visitors consists of two components; Module and Guides training. Module training was reported to consist of six modules delivered over six months and completed one week at a time. However, I was presented with only four modules. Trainers indicated that these four modules form module training in practice. The remaining two had been discontinued. Findings revealed that all home visitors who were interviewed had received Guides training

typically in the first week of duties as a home visitor in the form of on the job training. This entailed the newly recruited home visitor being accompanied by the Project Coordinator or Team leader as they recruit families to work with. The new home visitor would be shown how to interact with the families and taught what to do in accordance with what is contained in the Guides books. The 3 day Guides training focuses on an effort to inculcate process quality variables that include the types of interactions between home visitors and families, the use of age appropriate activities, materials and learning opportunities. Because this is a relatively very short period of training, the role of monitoring and support is very important in assessing the quality of delivery of the home visitors. This is further discussed under evaluation question 9 that assessed the quality of delivery of the home visits.

Only 8 of the home visitors who had been in the FiF programme for three years or more reported having received Module training for all four modules. The remaining 8 home visitors who had been in the programme for a period of two years or less reported that they had just completed training for Module one and two. The project coordinator mentioned that Module training had been suspended due to a high rate of home visitor turnover. This meant that in that period, new home visitors relied on their Guides training to conduct home visiting duties. FiF programme guidelines state that a home visitor needs to receive Guides training for at least three days prior to starting home visiting duties, even in the absence of Module training. The dosage for the Guides training was delivered as intended as all home visitors received one week of Guides training. With Module training, there was a variation in the dosage delivered as half the home visitors interviewed received the intended dosage and the other half did not.

In previous years, FCW assigned designated trainers to implement Module training and conduct assessments after training. Designated trainers conducted training for the home visitors who had received training for Module 1 - 4. Time of training implementation ranged from 3 - 8 years ago. Due to the length of time that had lapsed since this training was delivered, records could not be located.

The model has, however, since changed and the responsibility for training rests with the project coordinator. One project coordinator is responsible for the Mitchells Plain area and she trained the eight home visitors who received Module One and Two

training only. I interviewed the project coordinator to assess the implementation of this training. The project coordinator reported to have extensive knowledge of the duties of a home visitor, as she had been a home visitor for a year and a half then she progressed to team leader for the next 6 months. Thereafter, she was appointed as a project coordinator and has held the position for 4 years in the Mitchells Plain area. She completed her Matric and NQF level 4 training in people skills and computer literacy as well as basic counselling. The project coordinator reported that the training she conducted for Module one and two was based on module content as provided by the FCW and documented in Chapter 4. Although not accredited, the module training is recognised by the Education, Training and Development Practices Sector Education and Training Authority (ETDP SETA) as the content was adapted to align with SAQA unit standards. Without accreditation and further evidence of efficacy, it could not be determined whether the training materials were research-based, developmentally appropriate and aligned with ECD standards.

Usually, instructor delivery is assessed immediately after completion of training. This is done using training evaluations where participants complete a survey, rating the effectiveness of training in terms of trainer efficacy, presentation, materials, venue and delivery of objectives. The FCW currently does not conduct any training evaluations. This data was therefore unavailable. I did ask home visitors to comment on whether training that was received, was easy to understand. The results are discussed under evaluation question 4 below. Training quality is high when content of training is delivered as intended with the stipulated dosage, utilising the correct materials and delivered by a competent trainer. Because the modules were not accredited and did not have research-based evidence, I could not determine whether the content was of a high quality. Concerning dosage, only half of the home visitors who were interviewed had received the stipulated dosage. Instructor delivery could not be established because of the lack of formal assessments.

4. *What level of participant responsiveness did the home visitors display during the training (attendance, engagement, indications of understanding)?*

As the length of time that the home visitors had been in the programme varied, so did the time when training was received. It was difficult to track training attendance records for all home visitors as training varied from 8 years ago to 2 months ago. All

home visitors indicated that they attended and completed Guides training as this is a prerequisite to beginning home visits. Module training is delivered one week at a time and all home visitors indicated that they attended all training days in the week of module training received. Without attendance records, this information could not be verified. Concerning engagement and indications of understanding, I asked home visitors if the Guides and Module training they received was easy to understand. A total of 10 home visitors indicated that the training was easy to understand, as the trainer was willing to provide more in depth explanations. Examples were provided and the trainer engaged with the participants allowing them to ask questions on matters they did not understand. In addition, 13 home visitors indicated that the module training was informative and helped in understanding child behaviour better.

Six home visitors who were interviewed indicated that the content of the training was difficult to understand because they struggled to relate to the theories. One home visitor indicated that she did not understand English very well which made understanding the content difficult. All the home visitors mentioned that some modules were easier to understand than other modules. For example, modules that introduced new theories of practice that were not in line with content in the Guides book were more difficult to understand. One home visitor mentioned that her difficulty in understanding the content in training was based on the premise that she had a different way of thinking concerning child development, grounded in the manner in which she was raised as a child. She therefore had to bridge the new knowledge received in training with the knowledge she received from childhood.

As mentioned in Chapter 4, the Module training provided by the FiF is skills-based training as opposed to qualification-based training. When a home visitor is deemed competent after training and field observations, they are awarded with a certificate as a sign that understanding and engagement with programme content and theories have been achieved. All home visitors who had been in the programme for 3 years or longer and had received training in all four modules, reported that the FiF programme certified them. One home visitor mentioned that she was still waiting to receive the actual certificate.

5. *Were there sufficient resources to implement training for the home visitors with fidelity and quality?*

As previously mentioned, the FCW changed the delivery of Module training. The FCW previously had designated training facilitators who would conduct training from the FCW offices. Half of the home visitors who were interviewed and had been in the programme for 3 years or more received Module training through this method. All of these home visitors indicated that there were sufficient resources to implement training. The venue was suitable as training was done in the organisation's offices, and home visitors were provided with a travel allowance. According to the recollection of these home visitors, all materials that were required to complete training were provided.

As the designated trainer for new home visitors in the area, the Mitchells Plain project coordinator was interviewed on her experiences on delivering training for Module one and two for home visitors who had been in the programme for less than three years. Training as a component of the project coordinator's role was implemented in 2015 after a two-year halt in Module training. The biggest challenge that the project coordinator reported, was access to a venue to conduct training. A limited budget was allocated which was intended to cover travel costs for home visitors and the cost of hiring a venue. The project coordinator mentioned that the travel costs consumed a large portion of the allocated budget resulting in the need to improvise in order to secure an affordable venue. As an example, the first venue secured was a house that belonged to a community member but it proved to be uncomfortable. After much negotiation, a community hall was secured as a training venue. This was not easy to accomplish as training had to be scheduled to match the availability of the venue. The community hall was available for a limited time and training could only be conducted between 9am and 2:30pm due to parenting responsibilities of the home visitors. As parents, the home visitors needed to be available to drop and collect their children from school. This resulted in the project coordinator being pressured to make sure she delivered all content within that space of time. She indicated that she thought one month as opposed to one week, would have been more appropriate to deliver the content of each module. This comment was based on her experience and interactions during training. Stationery was also reported to be insufficient. Although food and refreshments were not provided and each home visitor had to make their own arrangements, both the project coordinator

and home visitors indicated that this was a desirable feature that would help to facilitate training.

In previous Module training, home visitors would receive training in the morning and would be required to conduct home visiting duties in the afternoon. This changed and visitors were not required to conduct any home visits in the week designated for training. There was a shared perception among all home visitors and the project coordinator that this assisted in delivering training of a higher quality as home visitors could focus on the training without the distraction of other duties. The project coordinator indicated that if provided with adequate time, a suitable and readily available venue and adequate stationery and refreshments, training would have been delivered with fidelity that was absent in the training sessions she has conducted.

6. *Did the pilot programme reach the intended caregivers?*

FCW does not specify criteria for one to qualify as a caregiver for a child in the FiF programme. Participation of caregivers in the programme is contingent on the criteria of the child as a qualifying beneficiary. For this reason, the characteristics of the caregivers are discussed further under evaluation question 11 that addresses whether the pilot programme reached the intended children. However, through interviews with programme staff, it was established that a caregiver does not have to be a parent; it can be anyone who will be present at all times when the home visitor conducts home visits, and perform assigned homework tasks with the child in the absence of the home visitor.

7. *Was the training for caregivers implemented as intended (content) and with the necessary intensity (dosage) and quality in terms of the training materials (research-based and developmentally appropriate, aligned with ECD standards) and instructor delivery (efficacious training)?*

Registers that are signed by both the home visitor and caregivers after a home visit are used to assess dosage or number of home visits conducted in a month. Counting over a period of ten months between the pre-test and the post-test, and using the standard of an expected four home visits per month to each home, 40 home visits

were expected during the period of the small sample evaluation. The minimum number of visits in the sample was 7 and the maximum was 30 with an average of 22 visits across the 10 months. Table 26 displays the number of home visits that each caregiver received in the duration of the small sample evaluation. Some children had missing data from the monthly registers, which meant that the visits were either not conducted or they were not recorded. Missing data was recorded as no visits conducted in the table.

Table 26

Dosage of home visits for each child in the small sample evaluation

FiF programme child	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Total number of home visits
1	0	3	4	3	3	4	3	1	2	2	**25**
2	4	2	3	2	1	4	1	3	3	1	**24**
3	2	4	3	0	2	3	2	1	3	1	**21**
4	2	2	3	3	4	1	3	3	2	2	**25**
5	3	3	3	3	2	2	3	3	2	2	**26**
6	0	0	3	3	4	3	2	1	3	2	**21**
7	0	0	3	4	3	2	3	3	2	2	**22**
8	3	3	4	3	3	2	3	3	2	2	**28**
9	3	3	4	3	3	2	3	3	2	4	**30**
10	2	2	2	0	0	3	2	4	1	3	**19**
11	0	0	4	3	3	3	2	1	2	2	**20**
12	2	3	2	4	0	0	0	0	0	0	**11**
13	0	0	2	2	3	0	0	0	0	0	**7**
14	0	0	4	4	3	2	2	2	3	2	**23**
15	4	2	2	3	3	2	3	2	3	4	**28**
16	2	3	3	4	3	2	4	3	2	2	**28**
17	0	0	2	3	3	3	2	4	1	3	**21**
18	2	3	4	0	2	3	2	1	3	1	**21**
19	4	2	3	3	3	2	2	3	2	2	**23**
20	0	0	3	3	3	4	1	4	2	2	**22**

Registers are also used to track attendance to parent workshops. The project coordinator collects and collates home visiting and parent workshop statistics to submit as an aggregated report for each area. I could not access comprehensive reports on parent meetings and toy workshops that had taken place involving caregivers for the children who were assessed in the small sample study. Activities were not consistently recorded and records were not consistently kept. Dosage of parent workshops and toy workshops that were implemented for all children in the small sample study could not be established.

Monitoring all visits that home visitors conduct would require intensive use of time and resources. The role of monitoring and supervision is one of the core responsibilities of the project coordinator. This is in addition to conducting monthly planning sessions with the home visitors, training and administration duties for all

activities conducted by the home visitors. As a part of the monitoring visits, the project coordinator verifies the existence of a child and caregiver in the programme who are under the care of a particular home visitor. The visit would also seek to confirm if visits have taken place as reported in the register. The project coordinator therefore has an overview of the functioning of the home visitors every month, which she communicates to the FCW. I interviewed the project coordinator to investigate how she conducted her supervision visits throughout the duration of the small sample evaluation. The project coordinator stated that she had difficulty conducting the supervision visits stating that “I normally go out and do field check-ups but I have not done it in the past three months due to training. I now do training. I needed to train the new home visitors that just started the training on module training. I also need to file the reports and registers, and make quarterly reports, it is quite a lot of admin. It takes a lot of my work time” (Project Coordinator, personal communication, 18 November 2015).

Monitoring visits that were conducted by the project coordinator were largely dependent on the workload she had been assigned per week. With Mitchells Plain being a widespread area, the project coordinator reported that conducting monitoring visits proved to be a difficult task among the other duties that had to be fulfilled. She therefore did not conduct these with the stipulated frequency. The team leader who works under the direct supervision of the project coordinator is sometimes tasked to assist in conducting monitoring and supervision visits. The project coordinator, however, further added that “the (team leader) used to help me before her son died so I don’t expect much from her, but I don’t put too much on her because she doesn’t get travelling money, she uses her own money and I do understand. It makes my life harder as well. I can’t say I have help. At the moment, I am alone and Mitchells Plain is quite spread. I can for example take 3 days to complete Beacon Valley because houses are not close by. I have to take all the registers from the home visitors and check through all visits for each child and count for reporting while checking the signatures. It is a lot and it takes me on average a week to do that admin and get everything done” (Project Coordinator, personal communication, 18 November 2015).

Although this small sample evaluation only focused on Heinz Park with six home visitors and only Grade R age children, the project coordinator was responsible for

supervising 12 other home visitors in other areas with children from 0 – 6 years old in the programme. Her administrative duties therefore included that entire group.

To assess whether the caregivers were trained as intended concerning content, I relied on feedback from both home visitors and caregivers. A total of 15 home visitors indicated that they implemented what they were taught in training, which was useful in planning and executing their duties as home visitors. All home visitors indicated that they relied on the Guides books as a blueprint for home visits with the children of different age groups. They indicated that the revised Guides book implemented in 2015 that combined the home visiting, parent workshops and toy workshop Guides books, was simpler and easier to follow, allowing for better coordination of activities. The book provided detailed instructions for weekly planning as well as assessments that were used for homework assignments. Only one home visitor indicated that she struggled to understand the content in the Guides book.

The HRI-Caregiver scale was used to assess delivery of training to caregivers by the home visitors. All 20 caregivers whose children were assessed at post-test were asked to complete the HRI-caregiver scale. A total of 19 responses were received. The scale measures two constructs of the helping relationship as discussed in Chapter 5, i.e. structural and interpersonal. Caregivers rated home visitors positively on both the structural construct (M = 4.27, SD = 0.68) and the interpersonal construct (M = 4.25, SD = 0.94). This indicates that caregivers were of the opinion that their home visitor had developed a good working relationship with them.

8. *What level of participant responsiveness did the caregivers display during the training (attendance, engagement, indications of understanding)?*

The HRI-Home Visitor scale was used to assess the engagement of caregivers, as rated by home visitors. Home visitors provided responses for all 20 caregivers whose children were assessed at post-test. Home visitors rated caregivers positively on both the structural construct (M = 4.4, SD = 0.79) and the interpersonal construct (M = 4.1, SD = 0.9) reflecting the perception of a good working relationship with caregivers.

Although generally rating interactions with caregivers as positive, home visitors mentioned issues they encountered while engaging with caregivers. Eight home visitors mentioned a tendency for caregivers to expect home visitors to work directly with the child instead of taking responsibility for the child as per the design of the programme. Eight home visitors mentioned that caregivers did not complete homework assignments as required. One home visitor indicated that on occasion she ended up doing the homework tasks with the child in order to have evidence of homework to submit as part of monitoring. Also raised, was a disinterest in taking part in the programme. Examples included instances where some caregivers chose to ignore home visitors when they visited, particularly in the cold winter season where some caregivers chose to lie in instead. Drug related activity was reported by two home visitors who mentioned that they entered a home to conduct a home visit and sale of drugs was taking place in front of both the home visitor and the child.

9. *Were the caregivers able to apply what they have learnt with the necessary intensity and quality (efficacious stimulation and parenting)?*

As described in Chapter 5, the Child-Parent Relationship (CPR) scale, The Parenting Sense of Competence (PSC) scale and the Warwick-Edinburgh Well-Being (WEMWBS) scale were used as measures of a caregiver's ability to implement programme activities.

On the CPR scale, caregivers rated their relationship with their children as positive (M = 3.95, SD = 1.49). This means that caregivers in the small sample study viewed the relationship with their children as a loving and close relationship. A total of seven items (see Table 27) on the scale received a lower average than the overall average of the entire scale. These items are linked to the perceived sense of control as a parent. The lower ratings imply that being in control as a parent was their least positive attribute.

Table 27

Caregiver Ratings on the CPR Scale

Scale item	*M*	*SD*
1. I have a loving relationship with my child.	4.47	.84
2. My child and I always seem to not work well with each other.	4.16	1.30
3. If upset, my child will seek comfort from me.	4.58	.76
4. My child does not like to be touched by me.**	3.47	1.21
5. My child is happy his/her relationship with me.	4.58	.76
6. When I say nice things to my child, he/she is feels proud.	4.58	.76
7. My child shares information about himself/herself without me asking.	4.58	.76
8. My child easily becomes angry at me.**	3.53	1.26
9. I can easily tell what my child is feeling.**	3.84	1.21
10. My child stays angry after being told he/she is doing something wrong.**	3.00	1.24
11. Dealing with my child takes a lot of my energy.**	3.42	1.21
12. When my child is in a bad mood, I know we are going to have a difficult day.**	3.53	1.26
13. My child's feelings toward me can change suddenly.	4.32	.94
14. My child can easily fool me.**	2.74	1.09
15. My child openly shares his/her feelings and experiences with me.	4.42	.96

**Items that had a lower average score compared to the overall scale mean.

Results from the PSC scale (*M* = 4.33 , *SD* =1.31) revealed that in general, caregivers perceived themselves as competent caregivers who did not feel overwhelmed with the duties and responsibilities of parenthood. Only item 16 (see Table 28) received a significantly lower rating compared to the overall average of whole scale. This means that caregivers felt that being a parent was unsettling to an extent.

Table 28

Caregiver Ratings on the PSC Scale

Scale item	*M*	*SD*
1.The problems of taking care of a child are easy to solve when you know that what you do can upset your child.**	4.32	.67
2. Even though being a parent could be a good thing, I am not happy now while my child is at his/her present age.	4.74	1.48
3. I go to bed the same way I wake up in the morning, feeling I have not done a whole lot.	4.32	1.56
4. I do not know why it is, but sometimes when I'm supposed to be in control, I feel more like my child can make me do whatever he/she wants.	3.89	1.76
5. My mother was better prepared to be a good mother than I am.	4.84	1.42
6. I would make a fine model for a new mother to follow in order to learn what she would need to know in order to be a good parent.	4.26	1.72
7. Being a parent is easy, and any problems can be easily worked out.	4.42	1.46
8. A problem with being a parent, is not knowing whether you're doing a good job or a bad one.	4.68	1.00
9. Sometimes I feel like I'm not getting anything done.	4.32	1.52
10. I carry out my personal goals in caring for my child.	5.05	.97
11. If anyone can find the answer to what is troubling my child, I am the one.	4.79	1.31
12. My talents and interests are in other areas, not being a parent.	3.95	1.54
13. Because of how long I've been a parent, I feel confident as a parent.	4.84	1.34
14. If being a parent was more fun, I would do my best to do a better job as a parent.	4.84	1.16
15. I honestly believe I have all the skills to help me to be a good parent to my child.	4.05	1.12
16. Being a parent makes me afraid.**	2.63	.95
17. Being a good parent is a good thing in itself.	3.63	1.30

**Item with significantly low rating.

The WEMWB scale as a measure of mental well-being of the caregivers revealed that caregivers rated themselves as possessing positive mental well-being (*M* = 4.07, *SD* = 1.0). Five scale items received ratings lower than the overall scale average. The two lowest rated items (scale item 4 and 9 in Table 29) dealt with an interest and closeness with other people, meaning that caregivers generally felt that interest in and closeness to other people were their least positive attributes.

Table 29

Caregiver Ratings on the WEMWB Scale

Scale item	*M*	*SD*
1. I've been feeling positive about the future.	3.68	1.33
2. I've been feeling useful.	3.84	1.01
3. I've been feeling relaxed.	4.32	.88
4. I've been feeling interested in other people.**	3.21	1.27
5. I've had a lot of energy.	4.21	.91
6. I've been dealing with problems well	3.89	1.04
7. I've been thinking clearly.	4.26	.93
8. I've been feeling good about myself.	4.63	.95
9. I've been feeling close to other people.**	3.42	.83
10. I've been feeling confident.	4.16	.95
11. I've been able to make up my own mind about things.	4.26	.93
12. I've been feeling loved.	4.47	1.07
13. I've been interested in new things.	4.11	1.15
14. I've been feeling cheerful.	4.58	.76

**Items with the lowest ratings on the scale

In addition, I conducted a group session with caregivers after the post-test assessments. I asked questions about the caregivers' abilities to apply what was learnt in the FiF programme. A total of 12 caregivers whose children participated in

the small sample study at post-test attended the workshop. All caregivers indicated that it was easy to apply what was taught by home visitors as home visitors always explained what needed to be done. Everyday materials around the home were used to demonstrate developmental activities that can be done with children. This was perceived to be convenient. Completing homework tasks was also reported to be fairly easy, although 2 caregivers reported that it depended on the mood of the child. Caregivers reported that they received regular reminders from home visitors to complete homework tasks with their children. The only issue that all caregivers mentioned as a struggle in the programme was attendance to parenting workshops. A number of caregivers have more than one small child in their care. Although children are permitted to attend parent meetings, caregivers find it distracting and prefer not to attend parenting workshops altogether.

10. *Were there sufficient resources to implement the training for caregivers with fidelity and quality?*

The FiF model is based on utilising resources in the home to execute child development activities. Outside of the Guides books, home visitors were not provided with any additional resources. To assess whether there were sufficient resources to implement training for caregivers with fidelity and quality, I asked questions about the provision of Guides books and how useful they were as a resource to complete duties. As reported under evaluation question 7, all home visitors received Guides books and reported that the book was a positive resource for planning and direction with regards to programme activities. Three home visitors indicated that they had to finance stationery such as scissors, glue and colouring crayons/pencils from their own pockets thus creating an additional expense.

Another key feature of the FiF model is ongoing support for home visitors, to enable them to conduct their duties effectively and efficiently. Fourteen home visitors indicated that they received enough support from the project coordinator who readily provided assistance to home visitors when needed, largely remotely via telecommunication. Twice a month, the project coordinator held meetings with the home visitors to discuss issues that they struggled with and allowed home visitors to share experiences and learn from each other. Two home visitors, however ,indicated

that they thought the project coordinator provided more support to some areas in Mitchells Plain than others because of the geographical distances.

A team leader was selected to act as an assistant to the project coordinator, providing support to other home visitors. Home visitors, however, indicated that as she is based in the Heinz Park area, the support received in other areas was limited. The team leader indicated that she had difficulties travelling to all areas in Mitchells Plain to provide assistance to all home visitors as she did not receive a travel allowance. All travel done was funded from the stipend she received from her duties as a home visitor. In addition, she still had to conduct home visiting duties for her 35 families.

Programme Implementation for Children

11. Did the FiF programme reach the intended children?

When programme resources are used for children who are not the intended participants, these resources are wasted. Furthermore, programmes are designed for specific targets. If non-targeted children are included in a programme, the programme activities may not be suitable for them and therefore the programme outcomes could be affected. In order for children to qualify to participate in the FiF intervention, they needed to reside in a community where the FiF is implemented, be between the ages on 0-6 years and not attending any other ECDCE intervention. All children in the small sample evaluation met these criteria. The characteristics of the children in the FiF programme are displayed below. These are presented in comparison with the characteristics of the comparison group. Table 30 shows the age variation of the programme group children, compared to the comparison group children.

Table 30

Age Variation of Children in the Programme Group and Comparison Group

Cohort	Min age (in months)	Max age (in months)	Average age (in months)
Programme group (Pre-test)	60	85	65
Comparison group (Pre-test)	63	73	67
Programme group (Post-test)	69	92	73
Comparison group (Post-test)	70	80	75

Six children in the FiF programme who were assessed in the small sample study were of Grade 1 age (using the stipulated standard that a child is suitable for Grade one if they turn 6 years old by 1 June in the year they start Grade 1 schooling). One had left the programme at post-test assessment. As the comparison group was a school-based Grade R class, enrolment cut-off ages were more strictly adhered to ensure that children within similar and norm-based age ranges were enrolled.

Table 31 shows the distribution of the socio-economic factors that were assessed to determine how similar of different the programme and comparison group were.

Table 31

Socio-Economic Factors Assessed for Programme and Comparison Group

Question item	Programme (n = 22)		Comparison (n = 24)	
Average age of mother/primary caregiver	31		32	
Does the mother/primary caregiver receive and child welfare grants?	Yes = 82%	No = 18%	Yes = 79%	No = 21%
What is the highest level of education of the mother/primary caregiver?	Matric or higher = 9%	Below matric = 91%	Matric or higher = 33%	Below matric = 67%
Is the father actively involved in the child's life?	Present = 59%	Absent = 41%	Present = 79%	Absent = 21%
Is the head of the household employed/unemployed?	Employed = 27%	Unemployed = 73%	Employed = 67%	Unemployed = 33%
Average household size (children)	3		3	
Average household size (adults)	4		3	

The responses show that there was a difference in the occupation of the head of household. Fifteen heads of household in the programme group were reported to be unemployed. In contrast, 16 heads of household in the comparison group were employed. Maternal education as discussed in Chapter 2 has been found to be a strong predictor of access to pre-school and performance. Only one mother from both groups had educational qualifications beyond Grade 12. The majority of the parents in both groups did not study past Grade 11. Minor differences were found for the involvement of the father in the child's life. Both groups were similar with a total of 6 children in the programme group reporting an absent father and 5 in the comparison group. A small difference was reported for mothers who receive a child support grant in the programme group (19) and comparison group (17).

I incorporated length of time in the programme for the programme group, and history of ECD attendance for comparison group children. Length of time in the programme ranged from 1 – 4 years with an average of 2.6 years. A total of 12 children in the

comparison group had attended early childhood care and education facilities prior to starting Grade R, whereas 10 had not attended any facilities.

Programme Outcomes for Children

In conducting the outcomes evaluation, I did not incorporate a control group of children in the same area who had never attended any type of ECD programme due to the high possibility of attrition and the possibility of other confounding factors. To control for the limitation of a lack of a control group, two measures were put in place. The developmental outcomes of the FiF programme children in the small sample evaluation were assessed against test norms (for three developmental areas) as well as against developmental outcomes of a comparison group. The comparison group was selected on the basis of similar characteristics to the FiF programme children. Although attending different Grade R programmes, all children were from the same community with similar background characteristics. For tests where norms did not exist, the comparison group, which uses a formal and nationally researched Grade R curriculum, was included to compare developmental outcomes. There was one child in the FiF programme group who was comparatively older than all other children but was receiving Grade R-based learning. This child was included in the evaluation because I already had a very small sample and the development assessments factored in age when testing and interpreting results. This means that an older child would not necessarily perform better than a younger child. Results were interpreted against existing test norms in South Africa, and these established the standard of performance considered to be age appropriate in the South African context in this evaluation.

12. *Are the children in the programme better off in terms of age appropriate motor, cognitive, language, social and emotional development after the programme than before? In addition, are they equal in terms of development when compared to a group of children who are attending traditional Grade R?*

There were 26 children in the programme group and 24 children in the comparison group at pre-test. At post-test, there was an attrition of six children in the programme group and two children in the comparison group. With the programme group, two children had moved out of the area, two dropped out of the programme, one was

sick during the post-test period and one child had just lost a parent and was excused from attending assessments. With the comparison group, one child changed schools and the other child was absent from school during post-test assessments.

Cognitive and motor development.

Results from the ECDC test assessments show that the programme group and comparison group were different at both baseline and follow up. The index scores that combine cognitive, fine motor and gross motor performance were lower for the programme group than that of the comparison group at both times. The maximum score for the programme group at post-test was lower than the maximum score for the comparison group at pre-test. This means that at post-test, the programme group performed worse than the comparison group did at pre-test overall. Figure 6 displays the average scores for the programme and comparison group on the ECDC index at pre-test and post-test.

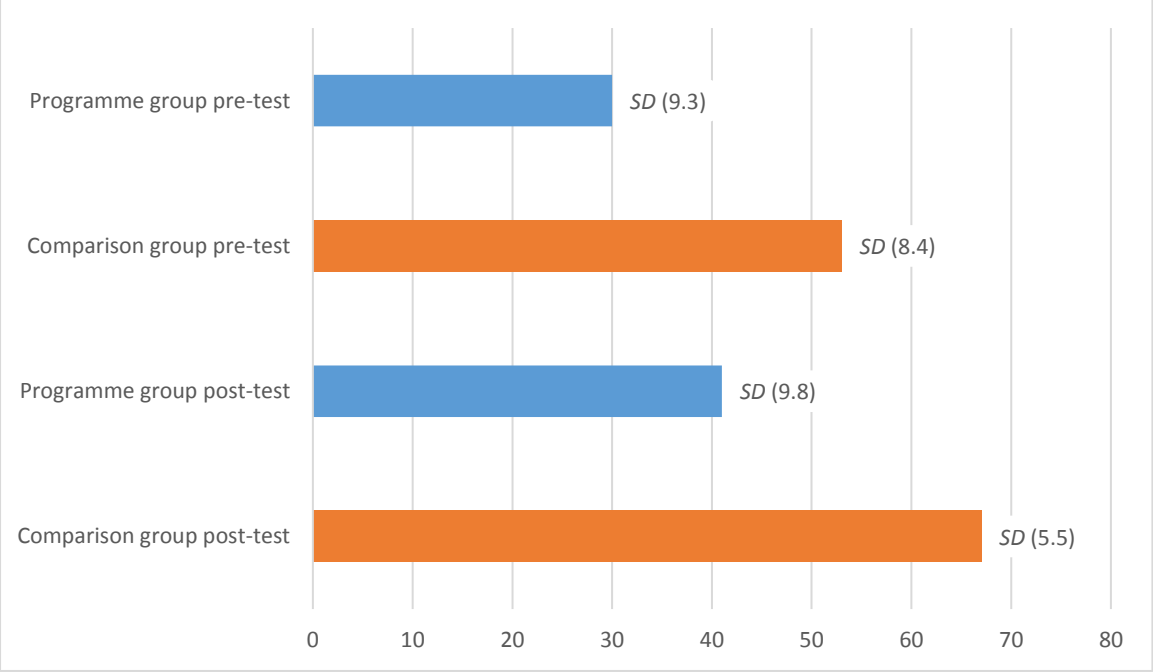
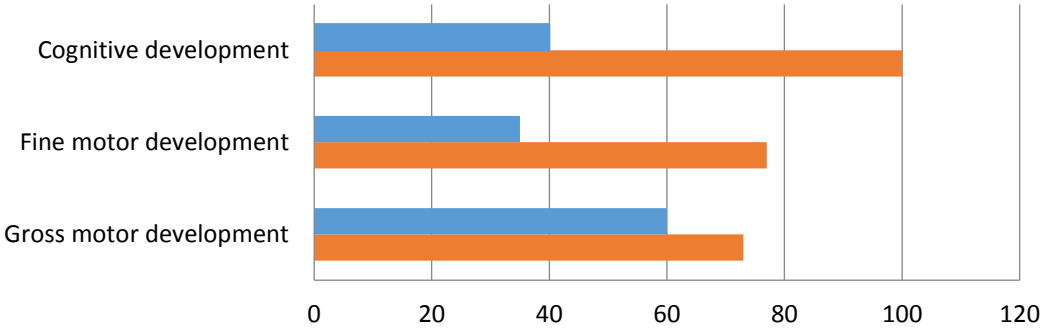


Figure 6. ECDC Test Score Means for Programme and Comparison Group at Pre- and Post-Test

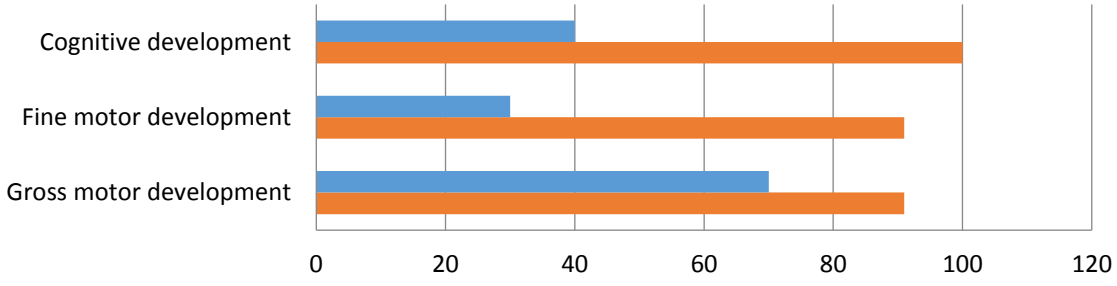
The ECDC has existing age-based test norms in South Africa. The results for each child in the small sample study were categorised according to these norms for cognitive, fine motor and gross motor skills, at pre-test and post-test. Results on the test were scored and categorised into one of five categories of development, very low, low, normal, high and very high. Figure 7 displays the percentage of children in each group who displayed normal or above performance at pre-test.



	Gross motor development	Fine motor development	Cognitive development
Programme group	60	35	40
Comparison group	73	77	100

Figure 7. Percentage of Children in Each Group with Normal or Above Age-Based ECDC Test Performance at Pre-test

On cognitive performance and rated according to age norms on the ECDC pre-test, only eight children in the programme group were of normal age-based cognitive performance or above. The remaining 12 performed below normal age-based standards. All children in the comparison group were of normal age-based cognitive performance or above at pre-test. With fine motor skills, 8 children in the programme group displayed normal age-based fine motor development at baseline, in comparison with 17 for the comparison group who displayed normal or above age-based performance. A total of 10 children in the programme group displayed normal or above age-based gross motor skills development in comparison with 16 children in the comparison group. Figure 8 displays the percentage of children in each group who displayed normal or above performance at post-test.



	Gross motor development	Fine motor development	Cognitive development
Programme group	70	30	40
Comparison group	91	91	100

Figure 8. Percentage of Children in Each Group with Normal or Above Age-Based ECDC Performance at Post-Test

At post-test, eight children in the programme group displayed normal or above age based performance on cognitive skills. Although this was the same number at pre-test, it was a slightly different group of children. Two children moved from normal to below age-based performance and another two children moved from below normal to normal age-based performance at post-test. All children in the comparison group displayed normal or above age-based cognitive performance. On fine motor performance, there was a slight decrease in the number of programme children showing normal or above age-based performance. A total of six children in the programme group displayed below normal age-based performance on fine motor skills. In contrast, there was an increase to 20 in the number of children in the comparison group displaying normal or above age-based performance. The greatest increase for programme children was with gross motor performance with a total of 12 children displaying normal or above age-based performance at post-test. The number of children who displayed normal or above age-based performance also increased for children in the comparison group to 20. Table 32 displays a comparison of the number of children that moved to a better development category in the ECDC test from pre-test to post-test, as well as the number of children who moved to a worse category in both groups.

Table 32

ECDC Results Summary for Programme and Comparison Group

Development area	**Programme group (n = 20)**		**Comparison group(n = 22)**	
	Performed better	*Performed worse*	*Performed better*	*Performed worse*
Cognitive	3	5	11	0
Fine motor	6	7	6	7
Gross motor	10	10	10	4

In order to establish whether the changes that were observed on the ECDC test within the programme and comparison group were statistically significant, t-tests were conducted using SPSS version 9.5. Paired samples t-tests were conducted to determine whether score changes from pre-test to post-test within both the programme and comparison group were significant. Results showed that there was a statistically significant difference in the scores for the programme group at pre-test (M = 32, SD = 8.2) and at post-test (M = 41, SD = 9.8); t (19) = 7.38, p = .000. For the comparison group, results also showed that there was a statistically significant difference in the scores at pre-test (M = 53, SD = 8.67) and at post-test (M = 67, SD = 5.49); t (21) = 11.87, p = .000.

To determine the significance of the difference between the scores for the programme and the comparison groups at both pre-test and post-test, independent samples t-tests were used. At pre-test, there was a statistically significant difference in the scores for the programme group (M = 30.35, SD = 9.32) and the comparison group (M = 53, SD = 8.43); t (48) = 8.98, p = .000. At post-test, there was also a statistically significant difference in the scores for the programme group (M = 41, SD = 9.76) and the comparison group (M = 67, SD = 5.49); t (29) = 10.35, p = .000. This means that the results obtained in the ECDC tests were not due to chance.

Language development.

Average scores for the programme group on the language assessments were lower than for the comparison group as displayed in Figure 9.

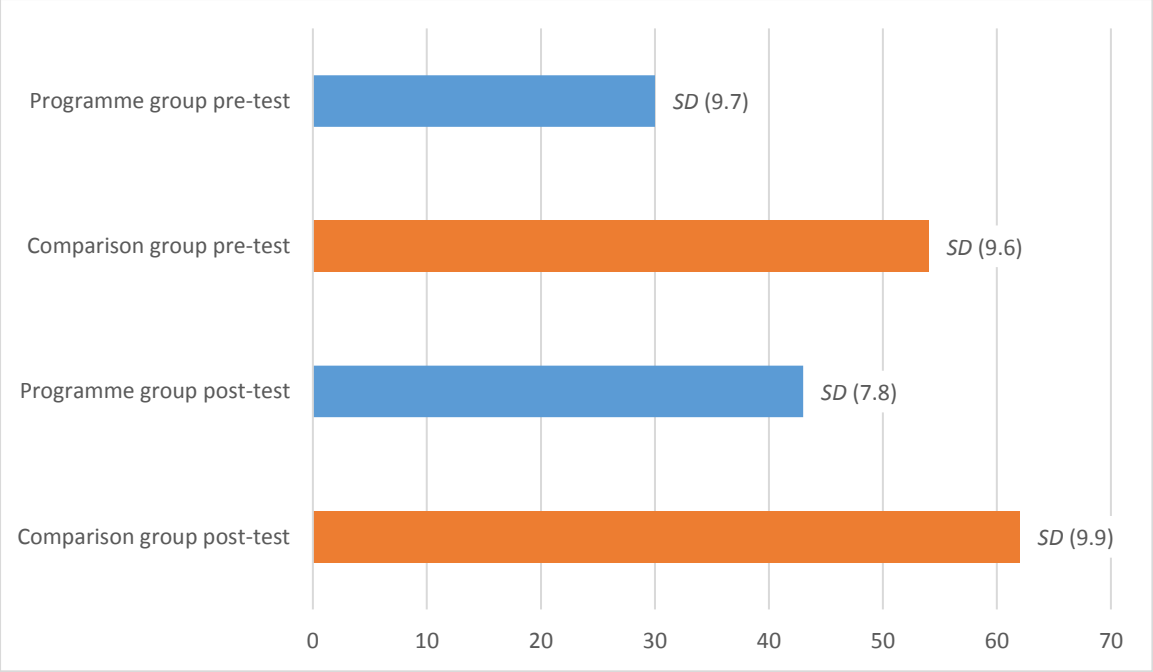


Figure 9. PPVT Test Score Means for Programme and Comparison Group at Pre- and Post-Test

The maximum score for children in the programme group at post-test was lower than the maximum score for children in the comparison group at pre-test. Although the comparison group had higher scores compared to the programme group, a total of 16 children in the programme improved at post-test. This is compared to 19 children who improved at post-test in the comparison group. The comparison summary is displayed in Figure 10.

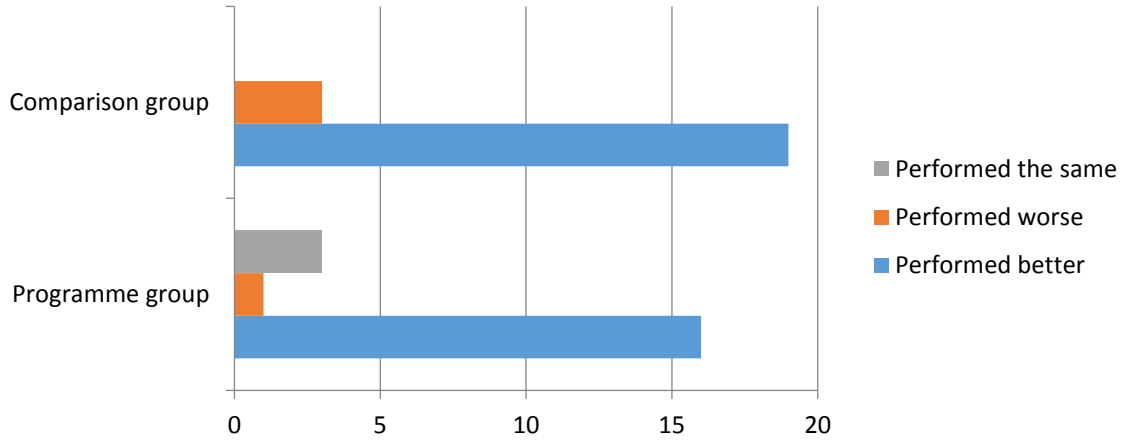


Figure 10. Summary of PPVT results for the programme and comparison group

Although the PPVT factors in the age of the children at assessment, there are no test score norms that exist in South Africa. To assess significance of score differences within the two groups, paired samples T-tests were conducted. Comparing scores for the programme group at pre-test and post-test, there was a statistically significant difference in the scores at pre-test (*M* = 30, *SD* = 10.35) and at post-test (*M* = 43, *SD* = 7.82); t (19) = 5, p = .000. Comparing scores for the comparison group at pre-test and post-test, there was a statistically significant difference in the scores at pre-test (*M* = 54, *SD* = 9.47) and at post-test (*M* = 62, *SD* = 9.96); t (21) = 4.26, p = .000.

An independent samples T-test was conducted to compare the PPVT scores for the programme and comparison group at pre-test. There was a statistically significant difference in the scores for the programme group (*M* = 30.35, *SD* = 9.67) and the comparison group (*M* = 54, *SD* = 9.6); t (48) = 8.64, p = .000. An independent samples T-test was then conducted to compare the PPVT scores for the programme and comparison groups at post-test. There was a statistically significant difference in the scores for the programme (*M* = 43, *SD* = 7.82) and the comparison group (*M* = 62, *SD* = 9.96); t (40) = 6.92, p = .000.

Behaviour develops at different rates for different children. Such differences are likely to occur in studies of compensatory education, where children in some programmes start off better than children in other programmes. This is a phenomena referred to as differential growth (Anderson, 2001). Scores at pre-test for children in the FiF intervention group were lower than scores for the children in the comparison

group. The higher scores in the comparison group reflect a higher growth rate in previous years. Higher growth rates for some children compared to others can be attributed to a better home environment (Anderson, 2001). The matching exercise that was conducted at the sampling stage of the evaluation, however, did reveal that the two groups came from similar backgrounds measured on the selected variables. Further differential growth was expected at post-test, as the more a child knows already, the faster the child can assimilate new knowledge (Anderson, 2001, Pungello, Kuperschmidt, Burchinal, & Patterson, 1996). In addition to the norm tests that were used for the developmental outcomes, a differential growth rate in the form of a percentage change was calculated for each group at post-test to assess how different the growth was between the two groups. On the ECDC assessments, the FiF programme group had a growth rate of 37% and the comparison group had a growth rate of 26% between pre and post-test. On the language assessments, the programme group had a growth rate of 43% and the comparison group had a growth rate of 15% between pre and post-test.

Social and emotional development.

In order to analyse the results for the social and emotional development assessments, response options on the *BUSSER-SR* were assigned numerical values (1 = Not at all, 2 = Sometimes, 3 = Mostly and 4 = Always). Scale items were also grouped according to the constructs that the scale items intended to measure as presented in Table 33.

Table 33

BUSSER-SR Test Results

	Pre-test		**Post-test**	
	Programme group	Comparison group	Programme group	Comparison group
Coping independence sub-scale	3.64(*SD* = 3.1)	3.22(*SD* = 2.13)	3.6(*SD* = 7.82)	3.44(*SD* = 2.26)
Social awareness				

subscale	3.5(*SD* = 3.35)	2.95(*SD* = 4.46)	3.42(*SD* = 3.16)	2.86(*SD* = 3.58)
Social regulation subscale	3.06(*SD* = 3.94)	2.91(*SD* = 4.25)	3.05(*SD* = 4.42)	3.15(*SD* = 2.82)
Social adjustment subscale	3.45(*SD* = 2.9)	2.86(*SD* = 1.49)	3.55(*SD* = 2.53)	3.39(*SD* = 2.22)

Unlike the cognitive, motor and language development, the programme group performed the same or better than the comparison group on social and emotional development. Possible reasons for this outcome will be discussed in Chapter 7. As with the PPVT, there are no test norms that exist for the BUSSER-SR. Scores for each subscale will be discussed separately. All mean scores were interpreted against a maximum score of 4 from the response options.

Coping independence.

For the coping independence subscale, both groups had high mean scores at pre-test and post-test. Paired samples T-tests were conducted to assess the significance of the score differences within each group. Results show that there was no statistically significant difference in the scores at pre-test (*M* = 3.64, *SD* = 3.1) and at post-test (*M* = 3.6, *SD* = 7.82); t (21) = .532, p = .606 for the programme group. With a slight increase in the average for the comparison group, results showed that there was a statistically significant difference in the scores at pre-test (*M* = 3.22, *SD* = 2.13) and at post-test (*M* = 3.44, *SD* = 2.26); t (22) = 3.61, p = .002.

To assess differences in performance between the two groups, results from an independent samples t-test revealed that there was a statistically significant difference in the scores for the programme group (*M* = 3.64, *SD* = 3.1) and the comparison group (*M* = 3.22, *SD* = 2.13); t (47) = 3.73, p = .001 at pre-test. However, at post-test, there was a no statistically significant difference in the scores for the programme group (*M* = 3.6, *SD* = 7.82) and the comparison group (*M* = 3.44, *SD* = 2.26); t (43) = 0.97, p = .336.

Self-awareness.

For the self-awareness sub-scale, the average scores for both the programme group and comparison group decreased slightly from pre-test to post-test. A paired samples t-test revealed that there was no statistically significant difference in the scores at pre-test (*M* = 3.5, *SD* = 3.35) and at post-test (*M* = 3.42, *SD* = 3.16); t (21) = .878, p = .390 for the programme group. Results from the same test for the comparison group showed that there was also no statistically significant difference in the scores at pre-test (*M* = 2.95, *SD* = 4.46) and at post-test (*M* = 2.86, *SD* = 3.58); t (22) = .860, p = .399.

To assess the significance of the difference between the two groups at pre-test and post-test, results from an independent samples t-test showed that there was a statistically significant difference in the scores for the programme group (*M* = 3.5, *SD* = 3.35) and the comparison group (*M* = 2.95, *SD* = 4.46); t (47) = 3.48, p = .001 at pre-test. Post-test results comparisons revealed that there was again a statistically significant difference in the scores for the programme group (*M* = 3.42, *SD* = 3.16) and the comparison group (*M* = 2.86 *SD* = 3.58); t (43) = 3.88, p = .000.

Self-regulation.

Results on the self-regulation sub-scale showed minor differences between the averages for programme group and comparison group. For the programme group, there was no statistically significant difference in the scores at pre-test (*M* = 3.06, *SD* = 3.94) and post-test (*M* = 3.05, *SD* = 4.42); t (21) = .159, p = .875. For the comparison group, there was no statistically significant difference in the scores at pre-test (*M* = 2.91, *SD* = 4.25) and at post-test (*M* = 3.15, *SD* = 2.82); t (22) = 2.41, p = .025.

Assessing statistical significance of the score differences between the two groups, results showed that there was no statistically significant difference in the scores for the programme group (*M* = 3.06, *SD* = 3.94) and the comparison group (*M* = 2.91, *SD* = 4.25); t (47) = .217, p = .829 at pre-test. At post-test there was no statistically significant difference in the scores for the programme group (*M* = 3.05, *SD* = 4.42) and the comparison group (*M* = 3.15, *SD* = 2.82); t (44) = 1.24, p = .222. This means

that both groups did not display any progress and when compared, the same non-progress was found.

Social adjustment.

There was an increase in the means from pre-test to post-test for both groups. A paired samples t-test revealed that there was no statistically significant difference in the scores at pre-test (*M* = 3.45, *SD* = 2.9) and at post-test (*M* = 3.55, *SD* = 2.53); t (21) = .713, p = .484 for the programme group. There was, however, a statistically significant difference in the scores at pre-test (*M* = 2.86, *SD* = 1.49) and at post-test (*M* = 3.39, *SD* = 2.22); t (22) = 8.33, p = .000 for the comparison group displaying improved development.

Using independent samples t-tests, there was a statistically significant difference in the scores for the programme group (*M* = 3.45, *SD* = 2.9) and the comparison group (*M* = 2.86, *SD* = 1.49); t (47) = 4.52, p = .000 at pre-test. At post-test, there was no statistically significant difference in the scores for the programme group (*M* = 3.55, *SD* = 2.53) and the comparison group (*M* = 3.39, *SD* = 2.22); t (43) = .755, p = .454.

Table 34 below displays a summary of the findings in the *BUSSER-SR* test. These will be discussed further in Chapter 7.

Table 34

Summary of Results for Socio-Emotional Skills Assessments

BUSSER-SR sub-construct	Within groups t-tests result	Between groups t-test results
Coping independence	- Programme group: No statistically significant difference from pre-test to post-test - Comparison group: Statistically significant difference from pre-test to post-test	- Pre-test: Statistically significant difference between programme group and comparison group - Post-test: No statistically significant difference between programme group and comparison group
Social awareness	- Programme group: No statistically significant difference from pre-test to post-test - Comparison group: No statistically significant difference from pre-test to post-test	- Pre-test: Statistically significant difference between programme group and comparison group - Post-test: Statistically significant difference between programme group and comparison group
Social regulation	- Programme group: No statistically significant difference from pre-test to post-test	- Pre-test: No statistically significant difference between programme group and comparison group

	- Comparison group: No statistically significant difference from pre-test to post-test	- Post-test: No statistically significant difference between programme group and comparison group
Social adjustment	- Programme group: No statistically significant difference from pre-test to post-test	- Pre-test: Statistically significant difference between programme group and comparison group
	- Comparison group: Statistically significant difference from pre-test to post-test	- Post-test: No statistically significant difference between programme group and comparison group

*Means, SD and T-tests used to analyse BUSSER-SR responses

CHAPTER 7

Discussion

Programme Theory

Utilising Rossi et al.'s (2004) interrelated components to assess the plausibility of the FiF programme theory, the programme theory was found to be plausible. Programme theory evaluations seek to identify possible casual models for specific outcomes, in order to determine the best suited model/s with the aid of supporting evidence (Weiss, 1972). In this small sample evaluation, this process was conducted retrospectively, in the sense that a model had already been implemented but its feasibility had not been tested. An impact theory and a service utilisation plan were extracted based on stakeholder interaction, reviewing of programme documents and existing literature. Although the programme was established based on models that have been tested, it was evident that the FCW did not have formal documentation of the FiF's theory of change. From interacting with programme staff, I found that there was a general shared understanding of what the programme intended to do. Although stakeholders displayed a high level understanding of the interaction of the core components of the FiF programme, the programme's objectives were articulated in such a way that they were not measurable. A theory of change that explicitly displays the interacting components is necessary in order to measure adequately the functioning and outcomes of an intervention. When outcomes are expressed in a manner that is not measurable, it is difficult to determine whether the intended change has been achieved. Explicitly articulating a theory of change will also aid in communicating the FiF programme objectives across the different levels of stakeholders.

The assessment of the plausibility of the FiF programme theory resulted in the fine-tuning of the programme theory. This refined programme theory may show slight variations from the original programme theory. The refined theory of change therefore needs to be communicated to all stakeholders, particularly those implementing the programme, in order to channel resources towards achieving the specific objectives.

Biersteker (2015) conducted an implementation evaluation of the FiF programme in three other participating communities. Table 35 displays the results of Biersteker's investigation of the understanding of the aims of the FiF programme by Project coordinators, Team Leaders and Committee members.

Table 35

Stakeholder perceptions of aims of FiF Programme (n=14)

FiF Programme Aim	Number of Responses
Parents take part in children's life/builds families/helped to take responsibility	9
Prepares children for school (confidence)	5
Education/equal chance for children not in ECD centres	3
Enrich lives/brings hope/skills and empowers parents	3
Access to network of social support/services/referrals	1

It is evident from Table 35 that caregivers playing an active role in their children's lives is perceived to be the FiF programme's main aim. This is followed by the aim of preparing children for school. These aims are in line with what is depicted in the organisational and service utilisation plan as well as the impact theory.

The organisational plan as adapted from an implementation evaluation of the FiF programme by Biersteker (2015) depicts the FiF programme as complex. There is no strict distinction between complex and simple interventions. However, complex interventions are generally described as containing several interacting components. Factors that are taken into consideration in determining the complexity of an intervention are the number of interacting components within the intervention, the number of groups targeted by the intervention, the number or variability of outcomes and the degree of flexibility in delivering the intervention (Craig et al., 2010).

The organisational plan (see p.123 in Chapter 6) depicts an interaction among a number of stakeholders involved in the programme. Donors provide funding to the FCW which assists in the establishment of community-based committees at participating sites. Participating committees then select qualifying members in the community to be trained as home visitors, who further act as trainers to other community members who engage with children to facilitate age appropriate development. In addition, home visitors work with families with children of varying

ages, where different age appropriate activities are applicable. The FCW has the ultimate goal of transferring responsibility of the FiF intervention management and implementation to participating communities. This model reveals complexity where the involvement of multiple stakeholders requires control in disseminating programme information to ensure that the same programme intentions and objectives are maintained at all levels.

The implementation of the programme utilises two active agents of change; trained home visitors and caregivers to improve child development in multiple development areas. The reliance on individuals who are not specialists but specifically get trained for the objectives of the programme adds to the complexity of the model. In addition, the programme has three components to the intervention; home visits, parent workshops and toy libraries. In order for all these components to work together to create an efficient programme that will reach its outcomes; planning, structure, support and monitoring are important.

The FiF programme is largely intended for operation in communities that are characterised by high unemployment and poverty, crime, violence and a lack of adequate resources. As mentioned in Chapter 6, the FiF programme operates on certain assumptions as an alternative solution for these types of environments. The assumptions are that the use of home visitors will result in better engagement in addition to being a cost effective method of delivery. Also, the more caregivers know about child development, the more likely they are to play an active role and will be motivated to do so. Lastly, there is an assumption that this method of ECD is an effective method in bridging child development gaps in the communities that the FiF programme operates, where traditional means are not readily available.

A plausible programme theory is only the first step and is a guide for programme implementation. Past research and literature dictate that results from a model such as the FiF programme would yield moderate change. If the most that can result is a moderate outcome, it makes it easier for the model to fail if it is not implemented with the intended fidelity. The next step of the small sample evaluation after the programme theory was found to be plausible, was to assess whether what was planned was actually put in place and whether the expected objectives were achieved as a result.

Programme Implementation

Implementation fidelity is important as it acts as a potential moderator between interventions and the intended outcomes (Carroll et al., 2007). In order to understand how a set of outcomes has been attained as a result of an intervention, the fidelity of implementation has to be assessed for certainty that the specific activities have indeed resulted in the specific outcomes. Without an implementation fidelity evaluation, the possibility of a Type III error increases (Carroll et al., 2007) where it is unknown whether a lack of results is due to a faulty model or poor implementation (Dobson & Singer, 2005; Sa'nchez et al., 2007). Incorrect conclusions about a programme can result when implementation fidelity is not measured. For instance, a programme can be deemed effective when it is not or deemed ineffective when it is. This is related to a phenomenon referred to as a black box evaluation. Black box evaluations do not take implementation into account and simply focus on the causal links between the programme and its outcomes.

In conducting implementation evaluations for programmes of a complex nature, it is impossible to design an evaluation that adequately captures all the factors of a programme. The best approach is to select specific important operational areas that will guide the evaluation. Through this method, the small sample evaluation revealed that fidelity of implementation of the FiF programme was not attained as summarised in Table 36.

Table 36

Summary of implementation fidelity findings

Evaluation question	Implementation Fidelity	
	Yes	**No**
2. Did the FiF programme in the small sample study reach the intended home visitors?		x
3. Was the training for home visitors implemented as intended with regards to:		
- Content (research-based and developmentally appropriate, aligned with ECD standards)?		x
- Dosage (necessary intensity)?		x
- Instructor delivery (efficacious training)?		x
4. What level of participant responsiveness did the home visitors display during the training in terms of:		
- Attendance?	x	
- Engagement and indications of understanding?		x
5. Were there sufficient resources to implement training for the home visitors with fidelity and quality?		x
6. Did the pilot programme reach the intended caregivers?	x	
7. Was the training for caregivers implemented as intended in terms of:		
- Content (research-based and developmentally appropriate, aligned with ECD standards)?		x
- Dosage (necessary intensity)?		x
- Instructor delivery (efficacious training)?	x	
8. What level of participant responsiveness did the caregivers display during the training in terms of:		
- Attendance?		x
- Engagement and indications of understanding?	x	
9. Were the caregivers able to apply what they have learnt in terms of:		
- Efficacious stimulation?	x	
- Parenting?	x	
10. Were there sufficient resources to implement the training for caregivers with fidelity and quality?		x

For the purposes of this discussion, Table 35 was summarised using the criteria that if an individual component being investigated did not achieve 100% adherence, then fidelity was rated as not attained. Based on the 16 implementation areas that were assessed in the small sample evaluation, a very low fidelity level of 37.5% was found. All items in the implementation fidelity evaluation were identified as key to the FiF programme implementation. There is, therefore, an assumed equal weighting on all components.

The expectation of perfect or near perfect implementation of interventions is unrealistic. Very few studies have revealed implementation fidelity levels greater than 80%, and positive effects have been found with 60% implementation fidelity levels (Durlak & Dupree, 2008). In a study that assessed 59 interventions, Durlak and Dupree found that when comparing the highest and lowest implementation fidelity levels, the variation was as high as 87%, with 20 to 40% differences between sites or providers being common. Furthermore, the relationship between adherence to programme protocols and outcomes has been researched with mixed findings. In some studies, a positive linear relationship has been reported between adherence and outcomes (Hogue et al., 2008; Huey, Henggeler, Brondino, & Pickerel, 2000) implying that the higher the adherence to a programme's protocols, the higher the likelihood of attaining outcomes as intended. In contradiction, Barber et al. (2006) found that a moderate level of adherence was more predictive of good outcomes for drug counselling sessions compared to perfect adherence. The flexibility and adaptability of practitioners in implementing sessions led to better outcomes compared to rigid adherence.

Although evidence on efficient implementation and related outcomes of home visiting interventions is scarce in South Africa, recommendations from international studies state that parent participation needs to be regular, active and sustained (Sweet & Appelbaum, 2004; Hebbeler & Gerlach-Downie, 2002). Home visits also need to be frequent, with a warm and stable relationship between caregivers and home visitors being critical. Home visitors also have to be specially trained and work with both children and parents to enhance child development outcomes towards school readiness. In the small sample evaluation of the FiF programme, fidelity was not attained on all three aspects.

One of the challenges in conducting this evaluation was the lack of comprehensive programme implementation records. Records were either not completed as expected, which in itself violates implementation fidelity, or home visitors did not complete the required number of home visits, or caregivers did not regularly participate in the programme. Records show that a number of home visits for the children in the small sample evaluation were either not conducted or recorded. Poor attendance is not unusual for local programmes offered to parents and particularly when the programme takes place over an extended period of time (Dawes et al.,

2012). In Biersteker's (2015) implementation evaluation of the FiF programme, parent attendance was also raised as a concern. Particularly, records reflected that there was low attendance to the parenting workshops. Reasons attributed to poor attendance included the inconvenience of taking children to workshops, poor delivery of workshops, logistics of timing and the venue and topics in workshops not being of interest to parents.

Biersteker (2015) also found that home visitors interacted directly with children in demonstrating developmental activities in opposition to what the model proposes. She suggested that this may be because of a lack of willingness to participate by caregivers. There were also indications that caregivers repeatedly failed to meet their obligations as required for participation in the programme, in terms of availability for home visits and participation during sessions. This may also be a result of variation in the length of home visits that was reported. Length of home visits depended on if there were different ages of children or if there were multiple problems the family was dealing with.

Ratings of home visitors and caregivers in the small sample evaluation, however, displayed a warm and stable relationship. Participant responsiveness was proposed by Carroll et al. (2007) as a measure of implementation fidelity. Both home visitors and caregivers had positive perceptions of the relationships with each other, as well as the FiF programme and its benefits. It is important that participants perceive an intervention they take part in positively, as this is likely to encourage higher levels of participation. However, participant bias can play a role in assessing implementation fidelity. For example, where good relationships have been brokered between a home visitor and a caregiver, they may report that all activities are performed as intended by the programme design when this is not the case. This may apply in the results of the small sample evaluation as regardless of positive relationship ratings and positive self-reports of programme participation, programme dosage was not adhered to and the programme was associated with poor child development outcomes.

The relationship that a home visitor has with a caregiver is an important mechanism for home visiting programmes to achieve programme outcomes. These relationships, however, also have the ability to compromise the fidelity of implementation (Barak,

Speilberger, & Gitlow, 2014). In evaluating home-visiting programmes Kitzman, Cole, Yoos and Olds (1997) found that there was a disparity between the efforts of the home visitors and the programme outcomes because home visitors were often faced with the overwhelming task of maintaining relationships at the expense of programme objectives. For example, home visitors would prioritise gaining and maintaining access to families thereby failing to implement programme activities as intended. This was a possibility in the small sample evaluation. Although good relationships were reported, home visitors raised concerns about caregivers who did not actively participate in the programme, as some caregivers did not grant home visitors access to the homes. In other instances, caregivers expected the home visitor to teach the child directly.

In an evaluation of a home visiting programme that aimed at addressing poor mental health, substance abuse and domestic violence, Darius, Tandon, Mercer, Saylor, and Duggan (2008) found that home visitors experienced conflict with responding to the urgent needs of families and adhering to programme protocols. A longitudinal mixed methods study by Hebbeler and Gerlach-Downie (2002) argued that the programme they evaluated based on the PAT model did not achieve its objectives because social support to the families was prioritised over adhering to programme implementation protocols.

In an endeavour to deliver an intervention that is as uniform and effective as possible, programme implementers need to receive the same training and support. This includes provision of training and training materials, as well as monitoring and feedback during implementation. These are referred to as support and facilitation strategies that optimise implementation fidelity and ensure standardisation in programme delivery (Carroll et al., 2012). This was found to be lacking in the FiF programme in the small sample evaluation. Only half the visitors who were interviewed had received the full suite of training and home visitors who lived and worked in a different area from the Project coordinator stated that they did not receive the same amount of support as home visitors who lived closer. The role of support and facilitation strategies is argued to be even more important in complex interventions (Carroll et al., 2012). Biersteker (2015) found that some of the newly recruited home visitors presented little understanding and motivation of the FiF programme, and seemed to participate because it provided work.

Training of the home visitors, particularly the Guides training, influences process variables such as the interactions between caregivers and children, the use of age appropriate activities, materials and learning opportunities. All home visitors indicated that they received Guides training. However, it is only a 3-day training and the home visitors can start their home visiting duties soon after. As the home visitors are non-professionals, there is a question as to the sufficiency of this training. Home visitors implementing programme activities without sufficient training is a cause for concern. It is unknown what exactly was being implemented, particularly as monitoring was sparsely implemented. There is a possibility of more harm than good being done as home visitors may have been forced to improvise when confronted with something they had not been trained on. Without sufficient training as well, there is a possibility that home visitors were not working towards the intended programme goals as they had not been equipped to work towards them.

Research has, revealed mixed findings on the competence of practitioners implementing an intervention and related outcomes. From a review of psychotherapy literature, Barber, Sharpless, Klostermann and McCarthy (2007) found a moderate relationship between therapist competence and intervention outcomes. Forgatch, Patterson and DeGarmo (2005) on the other hand found that improved competence was linked to an increase in positive outcomes in a parenting programme. In an intervention for youth substance use, Hogue et al. (2008) found no effect of competence on intended intervention outcomes. Breitenstein et al. (2010) propose a number of reasons for the mixed findings linked to practitioner competence and intended intervention outcomes. Firstly, components that make an intervention effective may have been poorly explicated, meaning that the instrument that is measuring competence of practitioners may be measuring qualities that the practitioners are not applying in the first place. Second is a failure to differentiate between adherence and practitioner competence. For example, all core components can be implemented (adherence) but done so poorly (competence) resulting in diminished intervention outcomes. Lastly, external factors that are beyond the control of the programme have been proposed as a possibility. For example, in the FiF programme, home visitors who have been sufficiently trained, are motivated and engaged are considered as equipped to implement competently programme activities. However, the environment the home visitors work in is largely unstable due

to high levels of poverty, violence and drug activity as reported by home visitors. Caregiver motivation to participate in the programme which is external to the control of home visitors has also been raised as an issue that could have affected ability to implement programme activities effectively.

The various dynamics that a home visitor can experience while implementing programme duties influence fidelity. A home visitor is likely to face a number of critical decision making situations that interfere with the ability to perform tasks. As an example, in situations where caregivers are experiencing personal difficulties or are not able to participate on a given day for a variety of reasons, what does a home visitor do? As per programme expectations, home visitors are expected to conduct four home visits per family per month and get participants to sign as proof of implementation. Such situations can place home visitors in a confusing conundrum. LeCroy and Whitaker (2005) argue that the day to day issues that home visitors experience in programme implementation are critical for fidelity, yet they receive little attention. The difficult issues that home visitors are likely to experience in conducting their duties are context specific. A highly trained specialist may not be better equipped to deal with these without the specific skills and competencies to work in the environment.

Competencies should therefore go beyond the attributes that a person possesses to be able to conduct duties. When there is an imbalance between a person's competencies or abilities and environmental demands, effectively addressing situations is a challenge. Within a framework that acknowledges the environmental factors, LeCroy and Whitaker (2005) propose that either a person's competencies are built to match the situational demands of the environment they work in or the environmental demands be eliminated. A practical and appropriate solution would be to provide a framework that identifies difficult situations with training and supervision designed to equip home visitors to interact and competently deal with the situations. This will be discussed further under recommendations.

There is increased recognition by FCW management of the need for competent reporting and documentation of programme activities to determine the quality of programme delivery. There is also consideration of limiting participation in the FiF programme to two years and detaching programmes that are considered to be well

established to sustain themselves without the active participation of the FCW (Biersteker, 2015). The viability of this in terms of achieving the intended outcomes will need to be assessed, taking into consideration the implications of scaling up the project to operate in multiple sites.

In replicating and scaling up an intervention as the FCW has done with the FiF programme, it is not sufficient that the intervention simply be evidence-based. Breitenstein et al. (2010) argue that decreased fidelity during implementation may explain why programmes that work in highly controlled environments do not work in real life contexts. The lack of implementation fidelity can weaken the attainment of outcomes. A number of factors have been identified that can lead to diminished fidelity. These include lack of sufficient training and technical support, limited resources to support implementation at site level, individual variations in competence and adherence to programme protocols, and competing demands for home visitors' time. An understanding of the core components of the intervention that need to be implemented with fidelity for successful replication is essential.

Transference of effective programmes into real life settings involves a number of phases; dissemination, adoption, implementation and sustainability (Durlak and Dupree, 2008). These are important aspects for real life setting programmes like the FiF whose model is based on findings from research studies. Dissemination refers to the amount of information and value about a programme that is made available to a community; adoption refers to whether a decision is made to implement the programme. Implementation refers to the roll out of activities and the governance processes put in place; sustainability is the maintenance of the programme over time. In planning for scaling up of interventions, Wandersman et al. (2008) proposed the interactive Systems Framework (ISF) as a tool to aid transference of evidence-based models into effective implementation. The ISF incorporates 3 interacting systems which are based on translation and synthesis of findings from research on effective interventions to practice in real life (dissemination), provision of training and a technical assistance support system (adoption) and a delivery system to support implementation (implementation and sustainability). The framework is based on the premise that provision of information alone is not effective in bridging the gap between research and practice. The correct infrastructure, general and intervention

specific capacity need to be put in place, especially when considering replication and scale up.

Infrastructure and general capacity refer to non-intervention specific capacity that needs to be in place to govern the intervention. These elements, such as leadership and organisational climate, strengthen organisational capacity to promote successful adoption and implementation of evidence-based models. This is important in the FiF programme as community committees need to be capacitated to manage successfully the FiF programme when the FCW withdraws. According to Duggan (2012) home visiting programmes with a strong delivery system at organisational level enable staff at all levels to carry effectively out their duties supporting the delivery of a high-quality service.

Intervention specific capacity building refers to pre-service and ongoing in-service training, as well as technical assistance throughout the implementation of the replicated intervention. Paulsell et al. (2014) assert from their analysis of home visiting programmes, that often the challenge is not a lack of intervention specific training. From interviews with home visitors in the small sample evaluation, home visitors indicated that they had a good understanding of the programme objectives that they were working towards, as well as the appropriate activities to achieve these. The challenge lies with insufficient training in skills and competencies that are required in delivering services in the environments that the home visitors work in as previously discussed.

The development of skills and competencies to be able to deliver programme activities in specific environments is important. FiF programme training focuses on theory surrounding child development and guides home visitors on how to structure home visits and workshops. The environment that is plagued with social and economic challenges that the home visitors operate in, is, however, of great importance as it has the potential to mediate the ability to implement programme duties successfully. The development of a taxonomy of difficult situations that includes frequency of situations and level of difficulty of situations would be useful (Goldfried & D'Zurilla, 1969; LeCroy & Whitaker, 2005). Home visitors should therefore be equipped with competencies to deal with difficult situations that they have identified as frequently occurring and also trained to deal with situations that

have been identified as most difficult, as that is where they are most likely to struggle.

The taxonomy mentioned above was applied by LeCroy and Whitaker (2005) in a study to understand better the difficult situations that home visitors confront in an endeavour to identify specific skills and competencies that can aid effective implementation. Twenty focus groups were conducted with 114 home visitors from a parenting programme. The results are displayed in Table 37.

Table 37

Findings of difficult situations for home visitors

*Fifteen **most difficult** situations for home visitors*	*Fifteen **most frequent** difficult situations for home visitors*
1. Limited resources to help parents	1. Working in homes during the summer heat
2. Helping parents who threaten to commit suicide	2. Working with limited resources to help parents
3. One person in the home is under the influence of drugs or alcohol	3. Working with teenage mothers
4. Working in the homes during the summer heat	4. Trying to create a confidential environment
5. When someone reports having given drugs or alcohol to children	5. Knowing what activities to do during a visit
6. Responding to threats or dangerous behaviour directed at the home visitor	6. Working with parents whose decisions you do not agree with
7. Working with uncommitted families	7. Working with families that aren't motivated
8. Working with families that aren't motivated	8. Working with parents' emotional feelings (e.g. sadness)
9. Dealing with family members who show up under the influence	9. Helping families when they are experiencing a crisis
10. Inability to contact parents	10. Working with uncommitted family members
11. Helping parents to change their parenting style	11. Working with parents that have different values
12. Family members who are not motivated because of alcohol or drugs	12. Working with immature clients
13. Families who are in constant crisis	13. Working with parents who are in denial about their problems
14. Providing services in unsafe homes	14. Trying to collaborate with other agencies

15. Addressing domestic violence	15. Inability to contact clients to set appointments

The study found that training often focused on the personal characteristics of the home visitors that are considered important for programme delivery. The results revealed that home visitors might be overwhelmed by the complex situations they confront in the work environment as listed in Table 37 above. The difficult situations identified above are similar to issues that were raised in interviews by home visitors in the FiF programme. A focus group is a useful method to extract the most frequent and most difficult situations that home visitors in the FiF programme confront. Training and supervision should then be tailored to build competencies to match these situations.

Literature lists five elements that are important in measuring implementation; adherence, dosage, quality of delivery, participant responsiveness and programme differentiation (Carroll et al., 2007). All five elements were taken into consideration in this small sample evaluation and the significance of the findings has been discussed in relation to relevant literature and past research.

Programme Outcomes

Table 38 displays a summary of the results of the outcome evaluation of the small sample evaluation.

Table 38

Summary of Results from Cognitive, Motor and Language Skills

Development area	Test used	Analyses used	Results summary	
			Programme group	*Comparison group*
Cognitive skills*	Early Childhood Development Criteria (ECDC)	ECDC South African test norms	- 40% of the children displayed normal or above age related cognitive skills at pre and post-test	- 100% of the children displayed normal or above age related cognitive skills at pre and post-test
Motor skills*				
Fine motor	Early Childhood Development Criteria (ECDC)	ECDC South African test norms	- 35% of the children displayed normal or above age related fine motor skills at pre-test and 30% of the children displayed normal or above age related fine motor skills post-test	- 77% of the children displayed normal or above age related fine motor skills at pre-test and 91% of the children displayed normal or above age related fine motor skills post-test
Gross motor	Early Childhood Development Criteria (ECDC)	ECDC South African test norms	- 60% of the children displayed normal or above age related gross motor skills at pre-test and 70% of the children displayed normal or above age related gross motor skills post-test	- 73% of the children displayed normal or above age related gross motor skills at pre-test and 91% of the children displayed normal or above age related gross motor skills post-test
Language skills**	Peabody Picture Vocabulary Test (PPVT)	Mean, SD and T-tests	- 16 children scored a higher test result at post-test; 1 child scored a lower test result at post-test - Statistically significant result from pre-test to post-test	- 19 children scored a higher test result at post-test; 3 child scored a lower test result at post-test - Statistically significant result from pre-test to post-test

* T-tests were conducted on the ECDC index that combined the result for cognitive and motor development. A statistically significant result was found within both groups from pre-test to post-test. A statistically significant result was also found between both groups at pre and post-test.

**A statistically significant result was found between both groups at pre and post-test.

Overall, children in the comparison group, which was enrolled in a full-time school-based Grade R class, performed better than children in the programme group on the ECDC assessments, particularly on cognitive performance. With a higher ECDC index average for the comparison group, a statistically significant difference was found between the means of both groups at pre-test and post-test. All children in the comparison group displayed normal or above age related cognitive development at both pre-test and post-test. For the programme group, less than half the children displayed normal or above normal age related cognitive performance at both pre-test and post-test. Although the mean increase for the FiF programme children on these assessments was found to be statistically significant, there is not sufficient evidence to show that this level of improvement in their language skills would not have happened through maturation.

The programme group showed the greatest improvement in gross motor skills, with the least improvement in fine motor skills. These results lead to the implication that there is more focus on bigger physical movements associated with gross skills, than there is on the smaller movements associated with fine motor skills. However, this may not be because of the FiF programme. It is possible that the FiF programme children spent more time engaged in outdoor play activities due to the lack of the type of structure that comes with being enrolled in a formal classroom setting. Overall on the ECDC assessments, the FiF programme group had a growth rate of 37% and the comparison group had a growth rate of 26% between pre and post-test.

Regardless of the delivery of the PPVT language development assessments in the preferred language for each child, the children in the comparison group performed better than the children in the FiF programme group with a statistically significant difference. The level of age appropriate language development for both groups of children could not be established as there are no existing test norms for the PPVT in South Africa. Although the overall average for children in the comparison group was higher at pre-test that the overall average of the programme group at post-test, the programme group had a higher differential growth rate than children in the comparison group. On the language assessments, the programme group had a growth rate of 43% and the comparison group had a growth rate of 15% between pre and post-test. More than half the children in the programme group did improve at post-test with a statistically significant difference.

Results from language development differences suggest that disparities start from the first years of life thereby affecting later development (Fernald, Marchman &Weisleder, 2013). Riessman (1962) first raised the argument of cultural deprivation that suggested that differences in children's verbal abilities were rooted in early language experiences in the home implying that low SES households are deficient of cognitive stimulation. Fernald and Weisleder (2011) argue that the basis of this argument resulted in extensive research over the following decades to establish the extent to which early language experiences in the home contribute to disparities among children and the extent to which it influences later academic success. A study by Hart and Risley (1996) found that by the age of 36 months, children from higher SES backgrounds spoke twice as many words than children from lower SES backgrounds. In addition, there was a variation in the amounts of child directed speech among families of different SES levels and these differences were correlated with children's vocabulary and predicted later school performance. The quality of an infant's early language development mediates the relationship between SES and the child's vocabulary skills (Hoff, 2003). Using a large national data set in the USA, Beron (2004) found that inequality in vocabulary growth that was attributed to SES difference developed in the period before children turned 36 months. Disparities in vocabulary proficiency were already evident at 18 months of age, and by 24 months of age, there was a 6 month developmental gap between children from higher and lower SES families.

Evidence from research in twin studies on language development has shown that environmental factors are more powerful than genetic factors in accounting for early childhood language development (Oliver, Dale, & Plomin, 2004). A number of variables associated with living in communities with high poverty contribute to language development. There is a variation in social and psychological support, with higher levels of stress and instability (Evans, Gonnella, Marcynyszyn, Gentile & Salpekar, 2005). The quality of interactions between a parent and a child can affect the development of the child. For example, a parent under great stress tends to respond to a child with less sensitivity, providing less social and learning stimulation to a child (Mesman, van IJzendoorn, & Bakermans-Kranenburg, 2011). Both frequency in communication - the more a caregiver talks to a child – and the use of

richer language when communicating with a child, enable faster learning of vocabulary (Fernald, Marchman & Weisleder, 2013).

Table 39 below displays a summary of results for the socio-emotional assessments.

Table 39

Summary of results for socio-emotional skills assessments

BUSSER-SR sub-construct	Within groups t-tests result	Between groups t-test results
Coping independence	- Programme group: No statistically significant difference from pre-test to post-test - Comparison group: Statistically significant difference from pre-test to post-test	- Pre-test: Statistically significant difference between programme group and comparison group - Post-test: No statistically significant difference between programme group and comparison group
Social awareness	- Programme group: No statistically significant difference from pre-test to post-test - Comparison group: No statistically significant difference from pre-test to post-test	- Pre-test: Statistically significant difference between programme group and comparison group - Post-test: Statistically significant difference between programme group and comparison group
Social regulation	- Programme group: No statistically significant difference from pre-test to post-test - Comparison group: No statistically significant difference from pre-test to post-test	- Pre-test: No statistically significant difference between programme group and comparison group - Post-test: No statistically significant difference between programme group and comparison group
Social adjustment	- Programme group: No statistically significant difference from pre-test to post-test - Comparison group: Statistically significant difference from pre-test to post-test	- Pre-test: Statistically significant difference between programme group and comparison group - Post-test: No statistically significant difference between programme group and comparison group

*Means, SD and T-tests used to analyse BUSSER-SR responses

The programme group scored the highest average on the coping independence subset at post-test, compared to other subsets. However, there was no statistically significant difference from the pre-test mean score. The comparison group also received the highest average score on the coping independence subset with no statistically significant difference from the pre-test mean score. This implies that both groups already exhibited independence behaviours such as the ability to play by themselves without an adult at pre-test, with no change at post-test. The programme group had the lowest average on the self-regulation subset. Self-regulation refers to a child's ability to comply with rules and interact with others without interrupting. This

is a likely outcome for the FiF programme group children who did not attend a formal learning intervention that encompassed rules and timetables such as that of the comparison group. The comparison group had the lowest average score on the self-awareness subset. However, results on all subsets for the social and emotional development assessments revealed high scores at pre-test and post-test for both groups, when comparing mean scores to the response maximum of 4. The programme group scored the same or better than the comparison group across all subsets at both pre-test and post-test. Caution should be exercised in interpreting the results of the social and emotional assessments. The results were based on ratings by the home visitors and the class teacher of the comparison group, making them susceptible to bias.

Based on the reported outcomes, there is evidence that the FiF programme children had not developed age appropriate cognitive, motor and language skills at the end of the Grade R year. This implies that the children were not school ready on the three developmental areas. The children showed no improvement from pre-test to post-test on the ECDC assessments after a year of intervention.

Evidence of outcomes associated with traditional ECD services is well documented, whereas evidence of positive outcomes linked to home-based interventions is less clear, particularly in relation to home-based interventions in South Africa (Dawes, Biersteker & Hendricks, 2012). An evaluation of the Sobambisana initiative in South Africa (Dawes, Biersteker & Hendricks, 2012), which is an initiative that looked at ECD provision including different variations of home visiting programmes in underserved communities had similar findings to this small sample evaluation. The Sobambisana evaluation found that there was no difference in language, cognitive, numerical and emotional development between children who participated in the home visiting programmes and those who had never received any formal ECD services (Dawes, Biersteker & Hendricks, 2012). A number of factors were proposed by the evaluators in the Sobambisana evaluation for the poor child developmental outcomes in the home visiting programmes. Compromised nutrition, short duration of programmes and too few visits, insufficient training and poor alignment of programmes to school readiness skills were proposed as attributing factors. Findings in this small sample evaluation and the Sobambisana evaluation revealed

that home visiting programmes are associated with minimal improvements in child developmental outcomes beyond what is achieved with maturation.

Findings in the Sobambisana evaluation, however, revealed that there was an improvement in caregiver coping and an improved sense of well-being. Although only post-test assessments on caregiver well-being were conducted in this small sample evaluation, similar to the Sobambisana evaluation, ratings on coping and well-being were high. This provides evidence of home visiting programmes being associated with positive coping outcomes for caregivers. In Biersteker's (2015) implementation evaluation, project coordinators in the FiF programme indicated that the greatest benefit of the programme was safety for children who are taught developmental activities by competent parents using everyday household items. Caregivers in this evaluation who reported that they benefitted from better parenting and communication with their children reiterated this.

A study by Van der Berg et al. (2014) showed that children from poor backgrounds are less likely to benefit from Grade R activities in comparison with children from more privileged backgrounds. The children in the comparison group in this small sample evaluation showed that children from poor backgrounds can benefit from Grade R given the right resources. Furthermore, children in the comparison group who had never attended any ECD interventions prior to starting Grade R but performed well even at pre-test, provide evidence that it is possible for children to learn and positively gain from home, in line with what the FiF programme attempts to do. There is a possibility of an extraneous variable that influenced the FiF results. In this evaluation, the most glaring difference between the two groups was that there was a higher number of employed heads of household in the comparison group than in the programme group. This group could, as an example, have had access to developmental materials or activities. Also, with more income available in households with employed heads, caregivers could direct more focus to and be more motivated to engage in developmental activities with the children in the home without worrying about sources of income.

Early childhood education home visiting programmes have the ambitious goal of improving child development outcomes. However, programmes with documented research in South Africa show that these programmes seem to be more successful

in improving parenting skills and caregiver coping, without reaching the former ultimate goal. This is in spite of evidence that moderate developmental outcomes can be achieved from home visiting programmes.

Recommendations

The greatest breakdown in the results chain of the FiF programme in this small sample evaluation was identified as the lack of implementation fidelity. Efforts should be directed towards increasing the fidelity of the programme implementation otherwise expectations of what the programme currently achieves should be adjusted. A higher standard of programme implementation is required, particularly as the programme was associated with a lack of progress in developmental outcomes for some of the children.

Quality of delivery is well documented with traditional ECD services, where it refers to the manner in which a practitioner delivers the activities in a programme. It is, however, an ambiguous element in home visiting programmes and setting a benchmark to mark quality makes this concept clearer to assess (Carroll et al., 2007). In setting a benchmark, it is necessary to establish what the minimum level required to achieve a positive effect is. A benchmark for a realistic level of positive effect because of the programme activities also needs to be established. At present, this is not available in the FiF programme. As previous research has found that 100% implementation fidelity is unrealistic, the core components that establish the bare minimum to effect change need to be identified. These are the core components that form the essence of the FiF programme that take priority over other supporting components. This is important in environments that have constrained resources or factors that mediate full roll out of programme activities. With the FiF programme, attendance to parenting workshops was reported to be a challenge in this small sample evaluation and in Biersteker's (2015) implementation evaluation of the FiF programme. Caregivers repeatedly displayed poor attendance to the workshops. Home visitors are dedicating time and focus towards these workshops only to be received by a very small audience. The effect that attending parenting workshops has on the achievement of programme objectives should be assessed in order to establish whether it is an essential element. If not, focus can be directed towards strengthening attendance to and the quality of engagement in home visits.

In addition, the lack of consistent monitoring data at the FCW was a cause for concern. There is an urgent need for the strengthening of monitoring and evaluation systems in the delivery of the FiF programme. The FCW already has data collection tools and templates that have been designed for this purpose. Project coordinators are responsible for overseeing monitoring of programme delivery as well as steering home visitors in effective data collection for reporting and should be capacitated to translate and transfer the importance of this function to home visitors. However, a balance needs to be maintained in enforcing record keeping. An over-emphasis could have a negative impact on the quality of the relationship between home visitors and caregivers. Assessing the effectiveness of the current data collection templates was beyond the scope of this small sample evaluation. Biersteker (2015) included an assessment of the reporting procedures and requirements in the implementation evaluation conducted with recommendations made. It is strongly recommended that the findings and recommendations in that implementation report are attended to in alignment with key areas where implementation fidelity was found to be lacking in this small sample evaluation.

Home visitor turnover, which is a recurring issue in the FiF programme and in home visiting programmes in general, can be mitigated by more suitable training. Providing formal accreditation for the training that home visitors receive would also raise the status of their qualifications. Home visitors would become better equipped to conduct programme activities without feeling overwhelmed. Sufficient and suitable training also creates more value for home visitors and importantly creates awareness of the objectives and processes towards the objectives of a programme, which can increase motivation and sense of competence towards a shared goal.

As there were comparison group children who had never attended Grade R but performed well at pre-test, it is possible that the home environment is sufficient to facilitate age appropriate development. Further research is needed to prove this suggestion. Families who participate in the FiF programme are typically recruited by being approached by home visitors because they have young children who are not taking part in any ECD initiatives. This could be an indication that there is limited interest by caregivers in proactively seeking child development activities for children at that age. The implication here is that lack of motivation of caregivers could play a role. There is a possibility that some caregivers take part in the FiF programme

simply because it is available as it is a free service and home visitors go to the homes. Caregivers indicated a range of reasons for taking part in the FiF such as affordability, lack of access due to distance and others mentioned that they did not take their children to other ECD initiatives because the FiF programme is available in the area.

The FCW should consider the possibility of more stringent recruitment procedures, or conditional recruitment into the programme. In the small sample evaluation, some children had been in the programme for four years yet the number of years in the programme was not associated with positive outcomes. After identifying the essential elements that are associated with good development outcomes in home visiting programmes, the FiF programme can use these as leverage to advance in the programme. This would reduce strain on limited resources that are continuously directed towards efforts that yield few positive results. Incentives for the caregivers which are not necessarily monetary in nature can be introduced. This will increase caregiver interest and motivation to participate as they are a key mediator in the results chain of the FiF programme, yet home visitors flagged caregiver participation as a challenge. Another way of addressing this issue may be to pay more attention in the design of the intervention to accommodate differences between the theoretical model of child socialisation advocated as optimal in training and the implicit cultural models that inform the community's indigenous and traditional practices surrounding child development. Building a synergy between caregiver ethno theories and the socialisation practice variables emphasised by formal scientific theories could be an effective way of raising the motivation and commitment of caregivers to implement the home-based activities advocated by home visitors.

Limitations

A number of threats to internal validity may have influenced the results of this evaluation. Threats to internal validity have the potential to compromise confidence that a relationship exists between attendance of the FiF intervention and the outcome results that were obtained. Lack of randomisation in this evaluation was a constraint, as was the proper matching of the children in the programme and comparison groups. With the design that was utilised, it cannot be established whether the same changes in the FiF programme children would have occurred

through maturation in the absence of the intervention. Lack of randomisation also introduced selection as a threat to internal validity where self-selection could have resulted. This is particularly so as there was a higher number of employed heads of household in the school-based Grade R sample compared to the FiF programme group who access a free programme. Although it is not always practical and achievable, I recommend a quasi-experimental design with rigorously matched programme and comparison groups. First prize would be a properly randomised field experiment, but this may not be feasible in an environment with such fluctuating demographic characteristics as Mitchells Plain.

Although there was a small difference in the attrition rates of the programme and comparison groups, differential attrition was a further threat to internal validity. The characteristics of the children who had follow up data could have been different from the characteristics of the six FiF children who did not have follow up data. This could have created an imbalance to the results that were obtained.

Another limitation of this small sample evaluation is that conditions in the home, which have been reported to influence child development, where not assessed. However, one of the key elements of the FiF programme is that home visitors train caregivers to implement age appropriate activities for children using materials that are available in the home. This implies that there is an expectation of delivery of activities and attainment of outcomes in spite of the home environment. However, there is an interaction effect that could be attributed to family characteristics or the home that I did not find in this small sample evaluation. This is evidenced by the children in the comparison group who had not attended any ECD facilities prior to starting Grade R, yet they still displayed normal or above age-appropriate-based performance at pre-test.

The small sample used in this evaluation was not representative of the population of children who have taken part in the FiF programme. However, at a site level and based on similar findings in Biersteker's implementation evaluation of the FiF programme, there is evidence that the programme is not being implemented as intended and more quality assurance needs to be done in this regard. Furthermore, the characteristics of the township of Mitchells Plain could be different from other

low-income communities limiting the generalisability of the implementation of a programme like the FiF to other low-income communities.

The small sample evaluation relied on self-reports to evaluate implementation fidelity of the FiF programme. There are a number of advantages and limitations to the use of self-reported data. It is an inexpensive and less time consuming method of data collection compared to observation methods, and home visitors can take part and feel involved in the evaluative process of the work they do. This method also allows for critical areas regarding the portability of programme components that require further training. The limitations or disadvantages of this method of implementation fidelity data collection are the distortion of information due to poor recollection and bias from participants to express positive experiences to adherence to programme protocols. In the small sample research, interviews were conducted at post-test and the possibility of diminished recollection cannot be ruled out.

Selection effects were a potential source of bias with the 12 caregivers who attended the workshop feedback session of their experiences in the FiF programme. This was a voluntary session and although all caregivers in the pilot programme were invited, only 12 attended the session. There was a likelihood of social desirability bias in the responses about the emotional quality of the relationships between caregivers and home visitors as these were self-reported. Caregivers indicated that they implemented activities in the programme as intended and perceived the programme as beneficial for the development of their children. Selection bias could have interacted with the implementation fidelity results.

Areas of Future Research

Poor programme implementation was found to be the biggest impediment to the attainment of programme objectives. Without strengthened monitoring and evaluation systems, it is difficult to detect issues in programme implementation. Research into M&E systems that are suitable and can easily be adapted in home visiting programmes would be a useful resource in strengthening implementation fidelity.

Unlike findings for the cognitive, motor and language development skills, children in the programme group performed the same or better than children in the comparison

group on socio-economic development. Some children in the comparison group in this evaluation performed well on the ECDC test at pre-test without prior attendance to ECD facilities. A more in depth analysis of these paradoxical findings would be useful. This evaluation incorporated a small number of factors that have the potential to moderate the relationship between the programme and its outcomes. Few South African evaluations have explored the extent to which quality of a programme, child characteristics, caregiver characteristics or home environment influence the relationship between alternate ECDCE programmes and their outcomes. Literature on these moderating factors which was included in this evaluation was based on international studies as none have been conducted locally. It is strongly recommended that this evaluation be repeated with a larger sample of FiF participants.

Expected Contributions to Research

There is a dearth of evaluations of community-based pre-school interventions in South Africa. This evaluation will contribute to the literature on such programmes. In addition, most evaluations of ECD programmes, whether community- or teacher-based, tend to focus only on cognitive development. Thus cognitive readiness becomes the sole focus of whether a child will adapt to school life. A child whose cognitive development is age appropriate, may still lag behind in social and emotional development and consequently struggle in school. This was one of the few evaluations which assessed cognitive, motor, language, emotional and social development taking into account the specific alternative ECD activities towards these outcomes. This comprehensive approach to assessing child development in underserved areas provided a novel overview of the interaction of multiple factors in school readiness in impoverished communities. Furthermore, this study was able to show whether specific components of an ECD programme are working for specific developmental areas or whether design or dosage need to be adapted.

The FiF programme reaches a large number of children in need of early stimulation. Rigorous research into the outcomes of the programme had not been conducted. This is the first evidence-based research on the developmental outcomes of the FiF programme, utilising available test norms in South Africa. This evaluation also contributed knowledge on the outcomes associated with home-based early

education in South Africa including information on the school readiness outcomes that were met and those which require more focus. This evaluation alerted us to the fact that there is a need to improve implementation, M&E systems and measurable outcomes of the FiF programme. The evaluation also alerted us to the fact that there is still a lingering question to the benefits of home visiting programmes for child development, and that there is evidence that children who participate still perform worse than children who attend traditional ECD services. Particularly, cognitive performance linked to home visiting programmes in impoverished areas is a matter of urgent concern. Cognisance should be taken of this in the light of home visiting programmes that are increasingly being implemented across the country as an alternative to traditional ECD services.

This small sample evaluation was conducted to contribute knowledge to the limited pool of research on home visiting programmes in South Africa. In underserved communities, the availability of resources is a challenge and some type of intervention that aims to improve child development is perceived as better than none. This group of children need the help the most. Home visiting interventions have the advantage of soliciting high levels of participation with the ability to reach vulnerable populations groups (Dawes et al., 2012). From the results of this small sample evaluation and integrating findings from other home visiting programme studies, there should be realistic expectations of what these programmes can achieve.

Conclusion

The discussion presented in this chapter show that the benefits of investing in early childhood development care and education far outweigh the costs involved. Data to assist the effective allocation of resources in order to reap the full benefits of well-coordinated services are necessary to lessen the developmental gap of children in South Africa. Different types of pre-school exist in the child development sector. The poorest communities are the least likely to have access to early childhood learning services, increasing the developmental gap for these children compared to children from more advantaged families. Alternative early childhood development care and education services alleviate service access issues. The important question is whether these programmes are adequate in preparing children to begin formal schooling so that they do not experience difficulty in their schooling careers. The

better the quality of a pre-school, regardless of the type, the better the outcomes and the more prepared a child for formal schooling. However, even good quality programmes cannot mitigate the adverse effects of poverty completely.

The FiF programme provided insight into the benefits of an alternative ECD service. Home visiting programmes can be an effective vehicle for some positive outcomes. One important finding in this and previous home visiting programme evaluations was that the quality of delivery in the interventions was a challenge as access to the programmes increased. This unfortunately adversely affected the attainment of positive child development outcomes. In the Sobambisana evaluation, quality improved when training and support were increased.

The National Integrated Plan for Early Childhood Development recognises the urgent need for multiple and integrated approaches as a solution for ECD access as only 30 percent of children attend formal ECD centres (Dawes, Biersteker, Hendricks, Louw & Tredoux, 2012). These approaches include direct services to children as well as indirect services such as training and education of parents, community development and increasing public awareness. A number of NGOs have made an effort to address the shortage of ECD services, however, a lack of rigorous evaluation of these services is a challenge. The need to scale up interventions with the best possible outcomes that result in child development in resource strapped environments means there is an urgent need to gather evidence of the efficacy of existing interventions.

With the limited research available in South Africa on home visiting programmes, implementation fidelity studies can contribute towards understanding the nature and extent to which implementation in the local context moderates intended outcomes, and also reduce the possibility of false conclusions being made on the effectiveness of interventions. This is crucial given the already limited resources that need to be distributed to create the greatest positive impact in marginalised communities.

Lipsey et al. (2015), who evaluated the benefits of pre-school pre-K intervention in the USA, also stated from their findings that more work needs to be done to understand the benefits of such interventions. There is more rapid expansion in the implementation of pre-school programmes in comparison to the evaluation of their effects. There is a perception that children from poor backgrounds will benefit from

even poor-quality programmes because any intervention is better than none. This small sample evaluation has shown that poor implementation fidelity is associated with a lack of child development. Policies and institutions in South Africa that support child development form a good foundation. However, for meaningful results that will benefit marginalised communities, issues concerning implementation need to be addressed.

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APPENDICES

Appendix A. Early childhood education ranking of OECD countries.

Country ranking	Country
1	Finland
2	Sweden
3	Norway
4	UK
5	Belgium
6	Denmark
7	France
8	Netherlands
9	New Zealand
10	South Korea
11	Germany
12	Austria
13	Switzerland
14	Spain
15	Portugal
16	Italy
17	Czech Republic
18	Ireland
19	Hong Kong
20	Chile
21	Japan
22	Hungary
23	Israel
24	UAE
25	USA
26	Canada
27	Greece
28	Australia
29	Singapore
30	Taiwan
31	Poland
32	Mexico
33	Russia
34	Argentina
35	Turkey
36	Malaysia
37	South Africa
38	Thailand
39	Brazil
40	Ghana
41	Vietnam
42	China
43	Philippines
44	Indonesia
45	India

APPENDIX B. EXAMPLES OF IDEAL CHILD DEVELOPMENT COMPETENCIES BY AGE

Age	Motor development	Emotional/positive approach to experiences	Social knowledge and competence	Language skills	General knowledge and cognitive skills
Two months	Sucking and other survival reflexes, little voluntary control	Unable to differentiate self from other	No concept of being able to influence another	Reflex crying when nervous system is over stimulated	No understanding of cause and- effect
One year	Independently mobile using non-walking methods, can walk holding onto something, able to grasp items using thumb and forefinger	Can differentiate primary caregiver(s) from others, will use caregiver as a secure emotional and physical base for exploration	Understands that others can act and be acted upon, engages in games with familiar adults, imitates others	Skilled at using gestures, e.g., holds up arms to be picked up. Imitates words, first spontaneous and deliberate word uttered around age one	Engages in task variation and deliberate experimentation, has some sense of cause-and effect in a specific situation
Two years	Able to walk and climb stairs, eye-hand coordination sufficiently developed to allow manipulation of large objects	Increasing self-confidence, will move a considerable distance from caregiver when exploring	Interested in playing along side other children, but not actually with them in a joint activity	Can string two or three words together in a simple sentence, e.g., "look truck"	Sentence, e.g., "look truck" begins to move from reliance on replica objects, e.g, a doll, in pretend play to use of substitute objects, e.g., a pillow for a "baby"
Three years	Skilled at climbing and jumping. Fine motor coordination sufficiently developed to permit manipulation of small objects	Beginning to regulate own behaviour, tries to handle emotions such as frustration but still needs adult help and guidance	Interested in playing with other children. Has difficulty sharing because of difficulty taking the perspective of another	Has some basic idea of grammar, e.g., adds "s" for a plural, asks questions, forms multi-word sentences	Shows some basic understanding of categorisation, e.g.,can sort by colour or by shape, but makes mistakes
Four years	Can control a pencil and cut with scissors	Can control own emotions, such as anger or frustration, in many situations with minimal adult assistance	Plays with other children. Is able to take turns and engage in cooperative activities	Can join simple sentences together to describe a past or present action or experience	Reliably sorts by colour or shape, but not by both simultaneously
Five years	Able to write letters, turn book pages without tearing them	Has some ability to stop and think before deciding how to act, is curious about the world outside the home	Has basic peer relationships skills, e.g., knows how to enter a group	Can hold a prolonged conversation and express ideas	By the end of the year, can sort by both colour and shape simultaneously

Note. Adapted from "Zero to six: The basis for school readiness" by G. Doherty, 1997, Ottawa: Human Resources Development Canada, Applied Research Branch, Strategic Policy.

Appendix B: Detailed Description of the Parenting Workshop Component

Topic	**One**	**Two**	**Three**	**Four**	**Five**	**Six**
	Understanding the importance of early childhood development	***Affirming caregivers and their role in their child's life***	***Communicating with my child***	***Social and emotional development: Understanding my child's behaviour.***	***Social and emotional development: Understanding my child's behaviour continued.***	***Alternative discipline.***
Activity 1	Welcome and ice breaker: Caregivers introduce themselves	Welcome and reflection: The home visitor recaps on the previous workshop session.	Welcome and recap: The home visitor recaps on the previous workshop session.	Welcome and recap: The home visitor recaps on the previous workshop session.	Welcome and recap: The home visitor recaps on the previous workshop session.	Welcome and recap: The home visitor recaps on the previous workshop session.
Activity 2	Establishing ground rules: The home visitor conducting the session stipulates set of ground rules for all caregivers to follow while attending the workshop sessions.	Icebreaker activity.	Talking with my body: The home visitor conducts an activity with the caregivers to show how non-verbal signals can communicate messages to a child.	What does social and emotional development mean? The concepts of social and emotional development of a child are introduced.	Icebreaker activity.	When my child's behaviour frustrates me: Caregivers share stories about the last time they were frustrated by their child, and how they reacted.
Activity 3	Caregivers are asked what they expect to gain from the parenting workshop and the home visitor addresses the expectations that will be met.	Different kinds of families: The home visitor gives caregivers pictures of families to work with in pairs. Caregivers form a story surrounding what they think about the families in the pictures and share with the whole group	This exercise is used as a reflection for caregivers' perceptions on the things that can positively or negatively shape their child.	Child development collage: Caregivers engage in an activity using pictures to create a collage documenting actions of a child at different stages between the ages of 0-6 years.	What makes a child act the way they do? Caregivers discuss in groups the reasons why they think a child act the way they do, focusing on environmental influences.	Why do a child misbehave? Caregivers brainstorm reasons why they think a child misbehave and discuss these reasons.

		of participants.				
Activity 4	The FiF model: The home visitor explains how the parenting workshops complement the home visiting component and provides caregivers with material to read about the model.	Being a parent: Caregivers discuss what they think makes it difficult to be a parent/caregiver and what makes it enjoyable.	Pop an idea: Caregivers share ideas on how they can praise and encourage their a child.	-	Praise activity: The home visitor leads a discussion about giving a child attention and praising them for good behaviour.	What does the word discipline mean? The home visitor explores the meaning of child discipline and how people have different ideas about the concept.
Activity 5	What is early childhood development? The home visitor explains what early childhood development is, as well as its importance.	How do I feel about me: Caregivers are presented with an opportunity for self-reflection on the different roles they play in their lives, as well as their fears, hopes and aspirations. It is a confidential exercise but caregivers are encouraged to share their reflections.	Listening to my child: Caregivers engage in role play about communicating with a child.	-	How to respond in a healthy way to your child's behaviour: Caregivers engage in a discussion that focuses on steps that can be taken to respond to a child in a healthy way.	Why do we discipline a child? What is the purpose of disciplining a child? Caregivers brainstorm reasons for disciplining a child.
Activity 6	What are the problems in our community? Caregivers are divided into groups to discuss the challenges they experience in their communities. The home visitor debriefs the activity and opens dialogue about the root causes of these challenges	How do I feel about me: Caregivers are presented with an opportunity for self-reflection on the different roles they play in their lives, as well as their fears, hopes and aspirations. It is a confidential exercise but caregivers are encouraged to share their reflections.	-	-	Situations of misbehaviour: The caregivers engage in role play where they reflect on their actions and reactions to a misbehaving child.	Caregivers are given true/false statements to work through in a group regarding myths about child discipline.

Activity 7	The home visitor explains both their role and that of a parent/caregiver in aiding child development. The home visitor offers examples of how caregivers can be more involved in aiding child development in everyday activities in their homes.	Learning to love myself: Home visitors explain to caregivers that a child need to experience loving and trusting environments in order to flourish. The home visitor links the importance of self-love as a parent/caregiver in creating a loving and trusting environment for a child.	-	-	-	What are the most important rules in the home? Caregivers share the rules they enforce in their homes.
Activity 8	-	Caregivers as the most important teachers of their own a child: The home visitor highlights the role of caregivers as teachers in their a child's lives.	-	-	-	Techniques on how to deal with problem behaviour: Caregivers engage in role play on techniques to deal with problem behaviour. Caregivers discuss real life example linked to the material in the activity.

Detailed Description of the Parenting Workshop Component (continued)

Topic	Seven	Eight	Nine	Ten	Eleven
	Mental/Intellectual development.	***Mental/intellectual development continued.***	***Physical development***	***Early literacy and language***	***Our future***
Activity 1	Welcome and recap: The home visitor recaps on the previous workshop session.	Welcome and recap: The home visitor recaps on the previous workshop session.	Welcome and recap: The home visitor recaps on the previous workshop session.	Welcome and recap: The home visitor recaps on the previous workshop session.	Welcome and recap: The home visitor recaps on the previous workshop session.
Activity 2	Icebreaker activity.	Icebreaker activity.	What is physical development? The home visitor introduces the concept of physical development of a child and the different between the large and small muscles in the body.	Icebreaker activity.	My child's future: Caregivers are encouraged to think about the future of and what they envision for their child at different timelines.
Activity 3	What is mental development? The home visitor introduces the concept of mental development of a child.	Solving problems in daily life: The home visitor introduces 9 concepts (matching, time, doing things in sequence, numbers, shapes, size, colour, classifications and spatial relationships) that a child can use to develop intellectually.	Why is physical development important? The home visitor discusses why it is important for a child to develop well physically.	The importance of language (talking and listening): The home visitor discusses how to talk and respond to a child in a manner that encourages learning.	How do we reach that dream? The home visitor leads a discussion about shaping the future of a child through the actions done at present.
Activity 4	How do a child learn? Caregivers brainstorm ideas about how they think a child learn. Using a collage of pictures, the home visitor provides feedback on the exercise.	Understanding the nine concepts for mental development: Caregivers are given instruction cards to role play a mental development concept and make links with how they think it will help a child develop.	Large muscle development: Caregivers participate in an activity of identifying the large muscles in the body and their functions.	Ice breaker activity.	Using action reflection: The home visitor leads a reflection discussion on the concepts that have been learned in the parenting workshops thus far.

Activity 5	The importance of asking questions: The home visitor discusses with caregivers why it is important to ask a child questions.	Language skills: The home visitor introduces the concept of how a child develops language skills, particularly in the first three years.	Large muscle development through different ages: Caregivers brainstorm activities that can be used to develop large muscle groups for a child in different ages.	The home visitor discusses how to make story time an everyday activity.	What do I do if I have questions, worries, or notice that my child is not developing like he or she should? The home visitor informs caregivers of organisations that they can approach for help if they have any concerns about the development of their child.
Activity 6	How do you ask a question? Using role play, a home visitor demonstrates how caregivers can ask questions in a manner that encourages learning and problem solving.	Telling a story: Caregivers engage in storytelling as a means of developing a child's language skills. Feedback is provided by the home visitor and other caregivers on how the story was told.	Small muscle development: Caregivers participate in an activity of identifying the small muscles in the body and their functions.	The home visitor leads a discussion of the benefits of stories and books to the development of a child.	Saying goodbye: Caregivers evaluate the parenting workshops, stating what they liked, did not like and whether they think it has changed their perception on parenting.
Activity 7	Learning about the world around me: The home visitor demonstrates how learning in the home can be achieved using items in and around the home.	-	Activities to develop small muscles: Caregivers brainstorm activities that can be used to develop small muscle groups for a child.	Collage: Caregivers participate in a brainstorming activity about how a child can learn at different ages.	-
Activity 8	Role playing "Learning about the world around me": Caregivers are provided with instruction cards and materials that are used to role play how a child can learn using items in and around the home.	-	A child develop at their own pace: The home visitor discusses how a child develop at a different pace.	Drawing and beginning to write: The home visitor leads a discussion about encouraging a child to draw and the parent/caregiver's role in discussing the picture without discouraging a child.	-
Activity 9	-	-	Music and movement: Caregivers brainstorm how they think a child can develop	Print around you: The home visitor leads a discussion encouraging caregivers to use any print in the home to help develop a child's	-

			through music and movement.	literacy development.	
Activity 10	-	-	Musical instruments: Caregivers play with musical instruments provided by the home visitor and discuss the type of muscles that are developed from playing the instruments.	-	-
Activity 11	-	-	Caregivers share songs they can sing with a child and discuss how a child can learn from singing.	-	-

APPENDIX C. SOUTH AFRICAN ENGLISH ADAPTED PPVT

Child's Name:

_____

Date of Birth: _____/_____/_____

Age: _____ (Years:

Months)(not rounded up)

Study Number:

_____

Tester:

_____

ADMINISTERING ITEMS:

Training items to be administered first Instructions are in the picture manual

The **Start Item** is the *first item* in the age appropriate item set.

The **Complete Set Rule** requires administration of *all 12 items* in the set in order, beginning with the first item in the set.

The **Basal Set Rule** is *one (1) or zero (0) errors* in a set. Establish the basal set first. If necessary administer earlier sets until the rule is met or until Set 1 is completed. Then test forward by sets until a **Ceiling Set** is obtained **or until Set 5** is completed.

The **Ceiling Set Rule** is *eight (8) or more errors in a set*. Stop after giving all items in the Ceiling Set or all of Set 5.

RECORDING RESPONSES AND ERRORS

- Record the child's response (1. 2. 3. Or 4) on the record form by circling the corresponding number after the stimulus word for each item. The correct response is in red.
- Indicate an error (incorrect or no response) by drawing an oblique line through the *E.*
- For each set record the number of errors in the box labelled number of Errors.

CALCULATING THE NUMBER OF ERRORS

Transfer the number of errors per set to the boxes below and add up total errors. Use the lowest **Basal Set** and the highest **Ceiling Set** (Note that the basal set might not be Set 1).

Set 1	Set 2	Set 3	Set 4
Set 5	Set 6	Set 7	Set 8
Set 9	**Total Errors between basal and ceiling set**		

CALCULATING THE RAW SCORE

Record the number of the Ceiling Item which is the last item in the Ceiling Set. For example if the child's highest Ceiling Set was Set 4, the Ceiling items would be 48. Subtract from the Ceiling Item the total number of errors made by the child (from the Basal Set through to the Ceiling Set or Set 5). The result is the Raw Score.

Ceiling Item _____

Total Errors **-** _____

Raw Score _____

Use the instruction: **Put your finger on…**

▼ **Start Ages 2:6- 3:11** **Set 1 –** *page 1*	
1. ball	1 2 **I3I** 4 E
2. dog	**I1I** 2 3 4 E
3. spoon	**I1I** 2 3 4 E
4. foot	1 2 **I3I** 4 E
5. duck	1 2 **I3I** 4 E
6. banana	1 2 3 **I4I** E
7. shoe	1 **I2I** 3 4 E
8. cup	1 2 3 **I4I** E
9. eating	1 **I2I** 3 4 E
10. bus	1 2 3 **I4I** E
11. flower	1 2 3 **I4I** E
12. mouth	**I1I** 2 3 4 E

▼ **Start Age 4** **Set 2 –** *page 13*			
13. pencil	1 4	**I2I** E	3
14. bread	1 4	**I2I** E	3
15. drum	1 4	**I2I** E	3
16. frog	1 4	**I2I** E	3
17. red	1 **I3I** E	2 4	
18. jumping	1 **I3I** E	2 4	
19. carrot	**I1I** 4	2 E	3
20. reading	**I1I** 4	2 E	3
21. knee	1 4	**I2I** E	3
22. belt	1 **I3I** E	2 4	
23. fly	1 **I4I**	2 E	3
24. painting	1 **I3I** E	2 4	

Set 3 – *page 25*			
25. walking	1 4	**I2I** E	3
26. whistle	**I1I** 4	2 E	3
27. kicking	**I1I** 4	2 E	3
28. lamp	1 **I4I**	2 E	3
29. square	1 **I4I**	2 E	3
30. fence	1 4	2 E	**I3I**
31. empty	1 4	**I2I** E	3
32. happy	1 4	2 E	**I3I**
33. fire	**I1I** 4	2 E	3
34. castle	1 **I4I**	2 E	3
35. mouse	1 **I4I**	2 E	3
36. throwing	1 **I4I**	2 E	3

▼ **Start Age 5** **Set 4 –** *page 37*			
37. farm	1 4	2 E	**I3I**
38. penguin	1 **I4I**	2 E	3
39. gift	1 **I4I**	2 E	3
40. feather	**I1I** 4	2 E	3
41. cobweb	1 4	**I2I** E	3
42. elbow	1 **I4I**	2 E	3
43. clapping	1 4	2 E	**I3I**
44. fountain	1 4	2 E	**I3I**
45. net	1 4	**I2I** E	3
46. shoulder	1 4	2 E	**I3I**
47. dressing	**I1I** 4	2 E	3
48. roof	1 4	2 E	**I3I**

▼ **Start Age 6** **Set 5 –** *page 49*			
49. peeking	1 4	2 E	**I3I**
50. ruler	**I1I** 4	2 E	3
51. tunnel	1 4	**I2I** E	3
52. branch	1 **I4I**	2 E	3
53. envelope	1 4	**I2I** E	3
54. diamond	**I1I** 4	2 E	3
55. calendar	1 **I4I**	2 E	3
56. buckle	1 4	**I2I** E	3
57. sawing	1 **I4I**	2 E	3

58. panda	**l1l** 2 3 4 E
59. shirt	1 2 3 **l4l** E
60. arrow	1 **l2l** 3 4 E

▼ Start Age 7 **Set 6 –** *page 61*	
61. picking	1 2 **l3l** 4 E
62. target	1 **l2l** 3 4 E
63. dripping	1 2 3 **l4l** E
64. knight	1 2 3 **l4l** E
65. delivering	**l1l** 2 3 4 E
66. cactus	1 2 **l3l** 4 E
67. dentist	1 2 **l3l** 4 E
68. floating	1 2 3 **l4l** E
69. claw	**l1l** 2 3 4 E
70. uniform	1 2 3 **l4l** E
71. gigantic	1 **l2l** 3 4 E
72. furry	1 2 3 **l4l** E

▼ Start Age 8 **Set 7 –** *page 73*	
73. violin	**l1l** 2 3 4 E
74. group	1 2 **l3l** 4 E
75. globe	1 **l2l** 3 4 E
76. vehicle	1 2 3 **l4l** E
77. chef	**l1l** 2 3 4 E
78. squash	**l1l** 2 3 4 E
79. axe	1 2 3 **l4l** E
80. flamingo	1 **l2l** 3
	4 E
81. chimney	1 2 3 **l4l** E
82. sorting	**l1l** 2 3 4 E
83. waist	1 **l2l** 3 4 E
84. vegetable	1 2 **l3l** 4 E

▼ Start Age 9 **Set 8 –** *page 85*	
85. hyena	1 2 3 **l4l** E
86. plumber	1 2 **l3l** 4 E
87. river	1 2 **l3l** 4 E
88. timer	**l1l** 2 3 4 E
89. catching	1 2 3 **l4l** E
90. trunk	1 **l2l** 3 4 E
91. vase	1 2 3 **l4l** E
92. harp	1 **l2l** 3 4 E
93. bloom	**l1l** 2 3 4 E
94. horrified	1 2 **l3l** 4 E
95. swamp	1 **l2l** 3 4 E
96. heart	1 2 **l3l** 4 E

▼ Start Age 10 **Set 9 –** *page 97*	
97. pigeon	**l1l** 2 3 4 E
98. ankle	1 **l2l** 3 4 E
99. flaming	1 2 3 **l4l** E
100. wrench	1 2 **l3l** 4 E
101. aquarium	**l1l** 2 3 4 E
102. refuelling	1 **l2l** 3 4 E

103. safe	1 2 3 **I4I** E
104. boulder	1 2 **I3I** 4 E
105. reptile	1 **I2I** 3 4 E
106. canoe	1 **I2I** 3 4 E
107. athlete	1 2 3 **I4I** E
108. towing	**I1I** 2 3 4 E

Comments:

Appendix D. Consent Letter for Parents in Comparison Group.

04 February 2015

Dear Parent,

Hlalani Gumpo is studying towards a Doctor of Philosophy degree in Programme Evaluation specialising in Early Childhood Development at the University of Cape Town. As part of her research, she is assessing the development of Grade R age children in Mitchells Plain in preparation for Grade 1. Ms Esterhuizen, the principal of Beacon View Primary school has provided permission for Mrs Van der Roll's Grade R class to be a part of this research. This research will benefit the school in understanding how the children progress through their Grade R year.

Children will be given a simple test in the form of play to measure their development. Development areas that will be assessed are cognitive, language, motor, social and emotional development. As an example, children will be given playing blocks to build or pictures to identify. Development assessments will be conducted by trained and qualified individuals in the field of Psychology. This will take place at the beginning of the year in February 2015 and at the end of the year in November 2015, and will take about 1 hour to complete. If you wish to know the results of your child, these will be made available to you. Assessments will take place during the normal school hours with minimum interruption. Mrs Van der Roll will be present at all assessments.

Please provide consent for your child to take part in this research by completing the consent form at the back of this letter. Your input will help us understand how children in different schooling environments develop. All personal information provided will be kept confidential. Participation is voluntary and you may withdraw at any point of the research. Should you have any further questions, please contact the university on 021 650 3778 or Hlalani Gumpo on 0720650277.

Kind regards

Professor Joha Louw-Potgieter

Appendix E. Parental/Guardian Consent Form

Title of research: An implementation and outcome evaluation of school readiness in Early Childhood Development programmes in underserved areas in the Western Cape Province.

Name of child _____

Birth date _____ Male/Female _____

Parent/Guardian's name _____

Relationship to child _____

Home address _____

Home phone _____

Risks and discomforts:

There are no known risks associated with this research. All assessments will take place at the Beacon View Primary school premises.

Potential benefits:

As a parent, you will get insight into how your child has progressed in their Grade R year. This information will also be useful to the school. As researchers, the information will help us understand how teacher based Grade R schooling has helped the development of your child.

Protection of confidentiality:

All information and records from this research will be kept safe and we will do everything to protect your child's privacy. The identity of your child will not be revealed in any publication resulting from this research.

Contact information:

If you have any questions or concerns about this study please contact Hlalani Gumpo on 0720650277.

I have read this parental permission form and will contact the principal researcher if I have any questions. I give my permission for my child to participate in this research.

Parent/guardian signature _____ Date _____

Appendix F. Ethics Approval to Conduct Pilot Programme

UNIVERSITY OF CAPE TOWN

Faculty of Commerce
Ethics in Research Committee

University of Cape Town Private Bag

Rondebosch 7701

Email: kincaidharold592@gmail.com

Telephone: 071 823 7573

February 25, 2015

HLALANI GUMPO

Management Studies

Project title: A THEORY-DRIVEN EVALUATION OF AN EARLY CHILDHOOD SCHOOL READINESS PROGRAMME IN AN UNDER-SERVED AREA IN THE WESTERN CAPE PROVINCE

Proposal no. 15-2015

Dear Researcher,

This letter serves to confirm that this project as described in your submitted protocol has been approved.

Please note that if you make any substantial change in your research procedure that could affect the experiences of the participants, you must submit a revised protocol to the Committee for approval.

Regards,

Professor Harold Kincaid

Signed by candidate

signature removed

Commerce Faculty Ethics in Research Committee